ANALYSE SYSTÉMATIQUE DES ANOMALIES DE BOUGER DE LA SUISSE

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Warning

This report is the English version of the original report written in French. For reasons of simplicity the legends of the plots were not translated

Introduction

This report describes the work done during the year 2007 for the project : Systematic analysis of the Bouguer anomalies of Switzerland. As for 2006 the work was done using the data of the gravity atlas of Switzerland mostly directly with the gridded values. The profiles used for the 2D interpretation have been extracted from the gridded data means of interpolation.

Preparatory work

In order to cover as good as possible the Molasse basin an eleventh grid has been included in the work already done. Figure 1 shows the location of this grid.

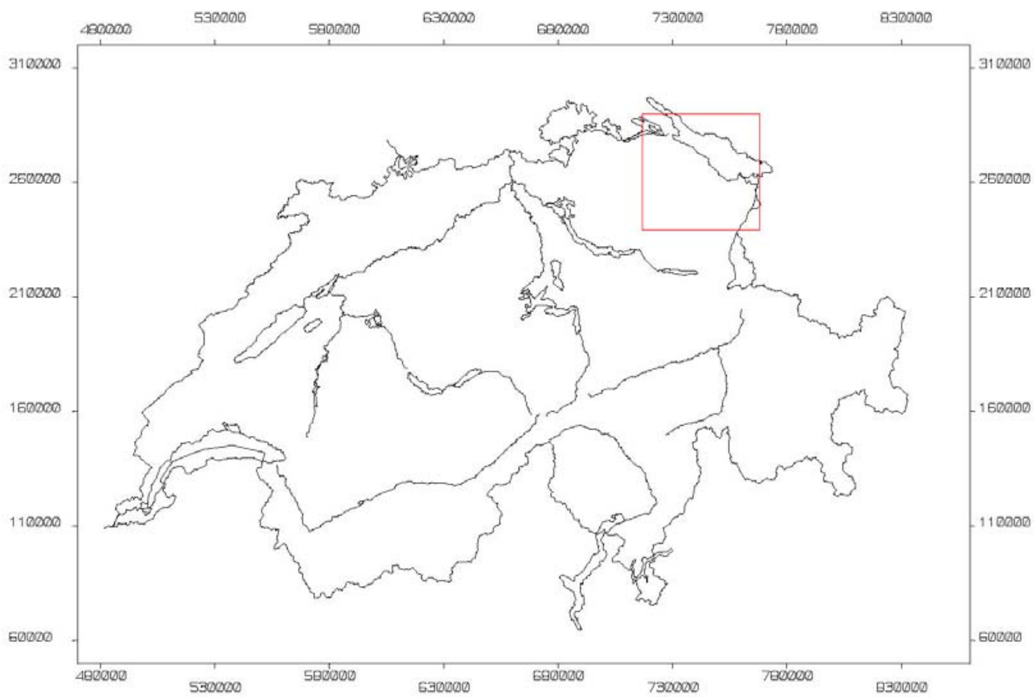
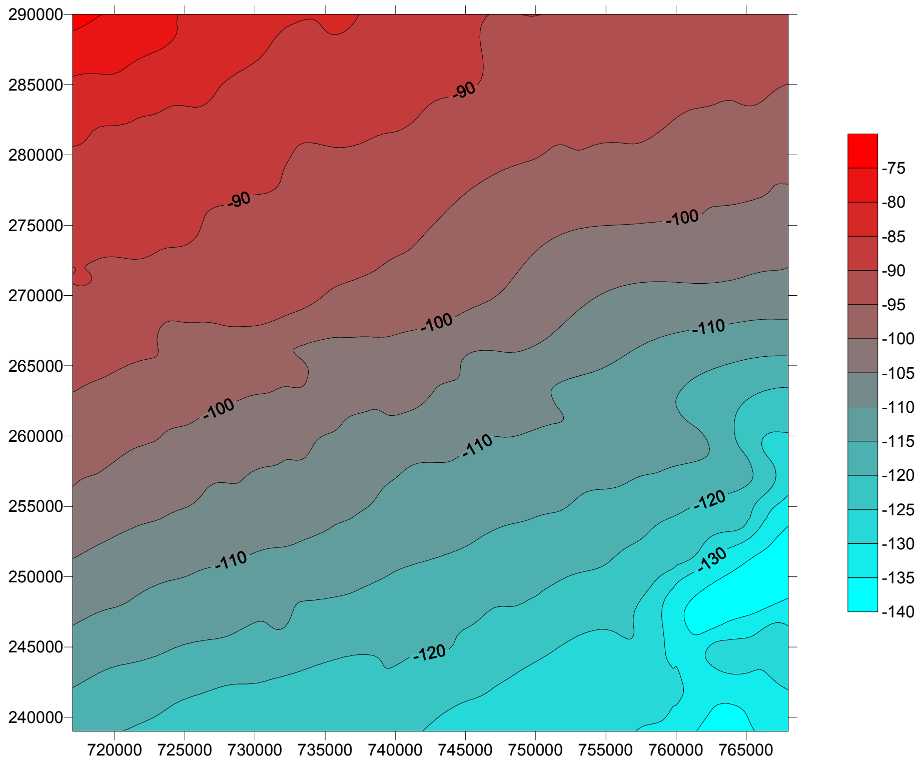


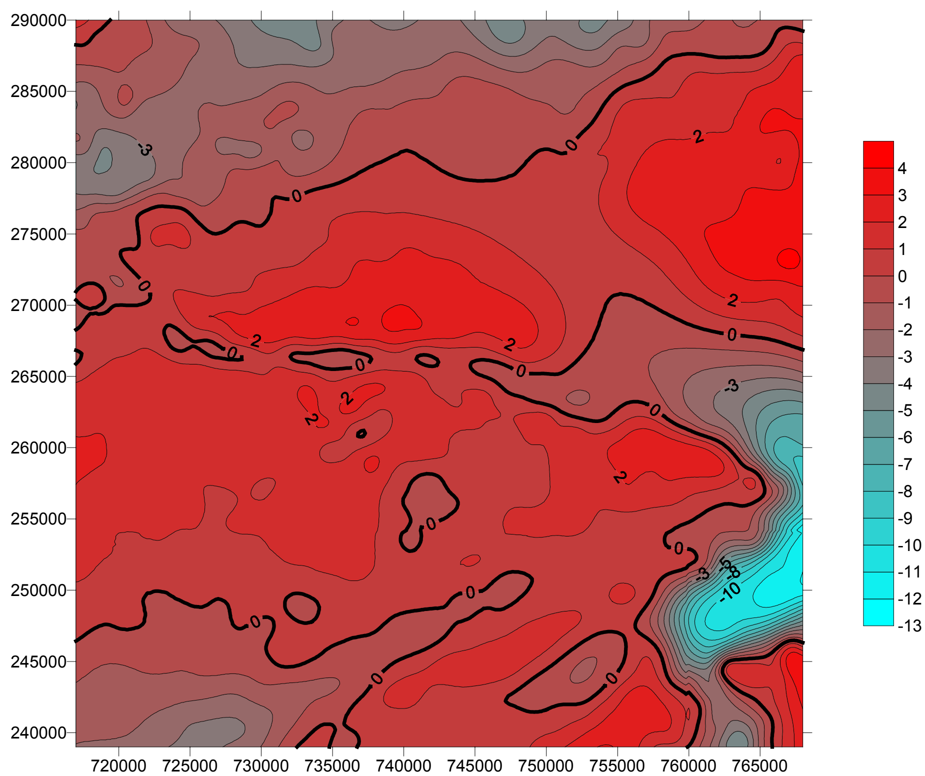
Figure 1: Location of the grid # 11 used for the data processing and for the interpretation.

On this zone three different residual fields have been determined and were used for the interpretation by means of the 3D Euler deconvolution.

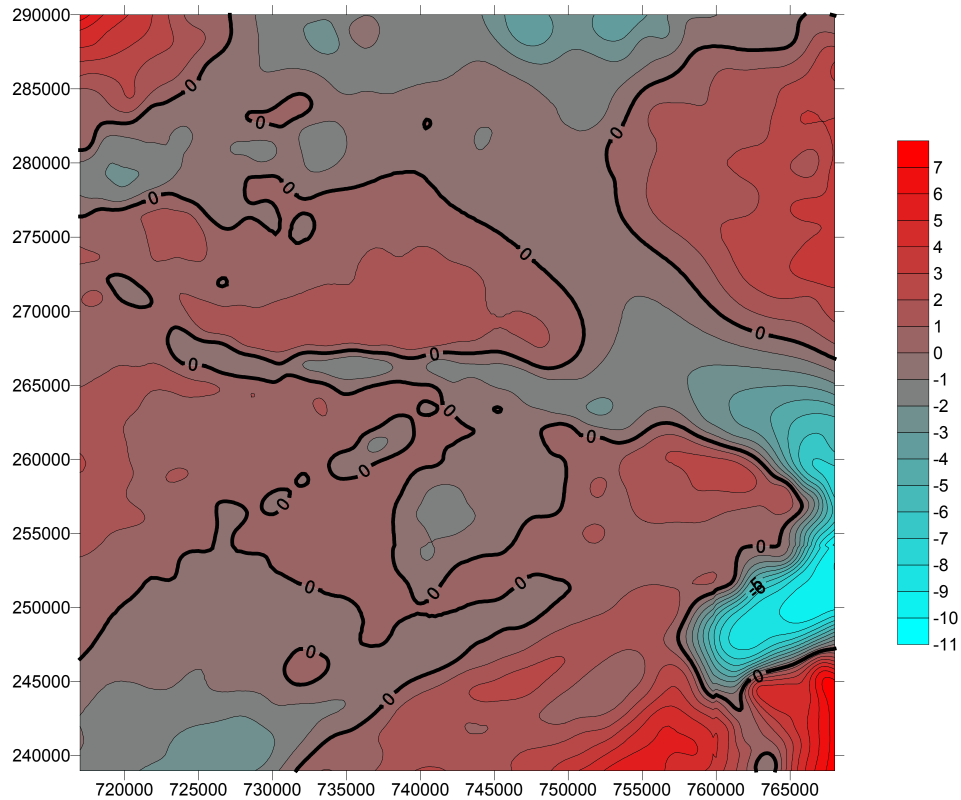
The four following figure show the Bouguer anomaly as well as the residuals of degree 1 to three of this zone.



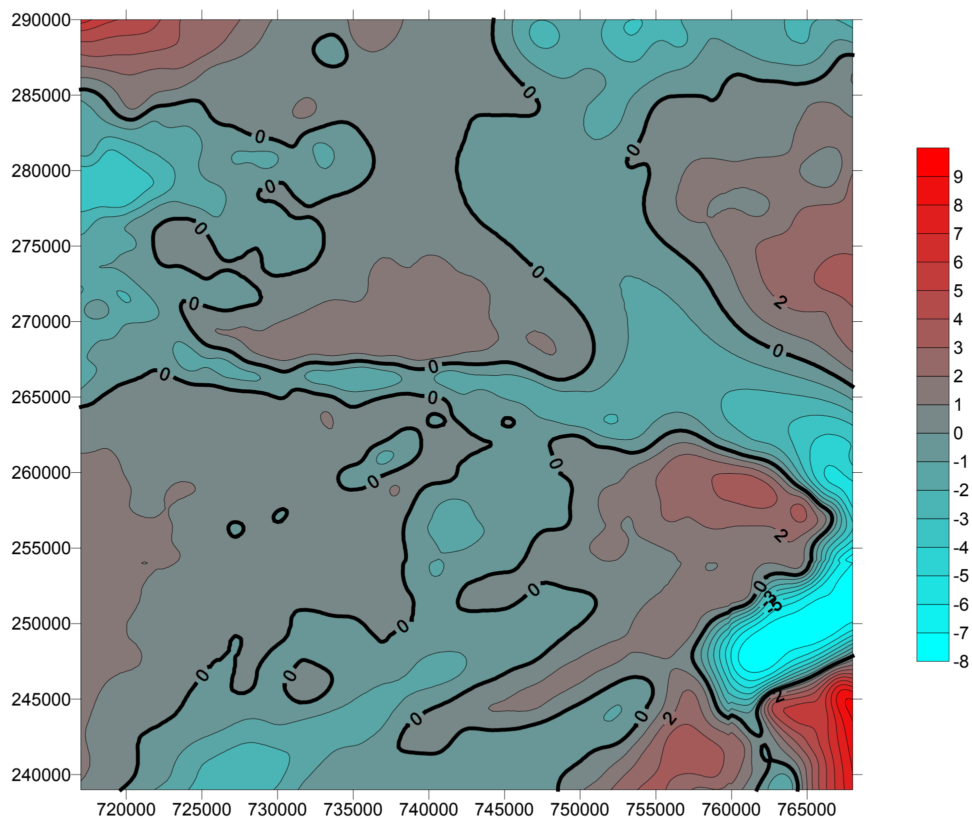
ZONE # 11
Anomalie de Bouguer



Zone # 11
Résiduelle 1ier degré



Zone # 11
Résiduelle 2ième degré



Zone # 11
Résiduelle 3ième degré

On top of that work the geometric models of the quaternary have been completed and corrected. Finally the models 39, 40 and 41 were added to the data bank.

Figure 2 shows the locations of these models.

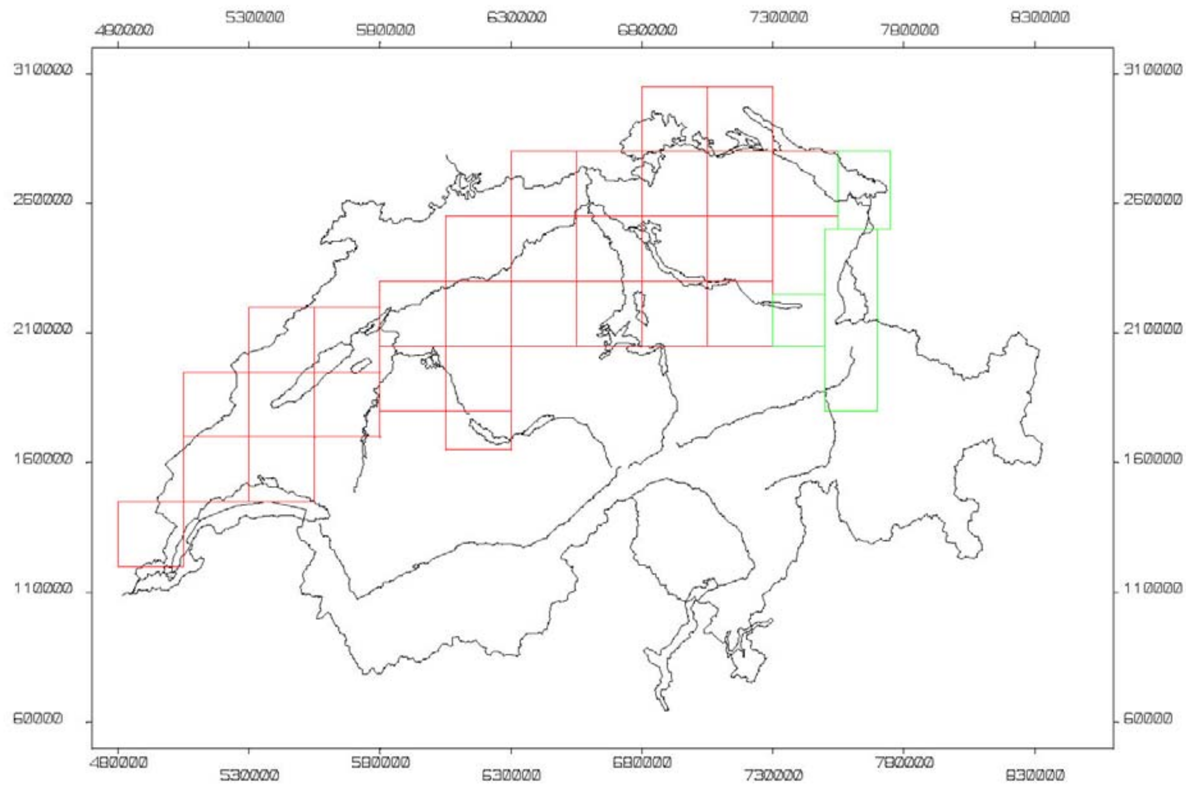


Figure 2: Location of the models of the quaternary created in 2006 (red) and in 2007 (green)

Interpretations

As for 2006 we have done interpretation 2D and 3D of the residual fields unstripped but for the zones 6 to 11

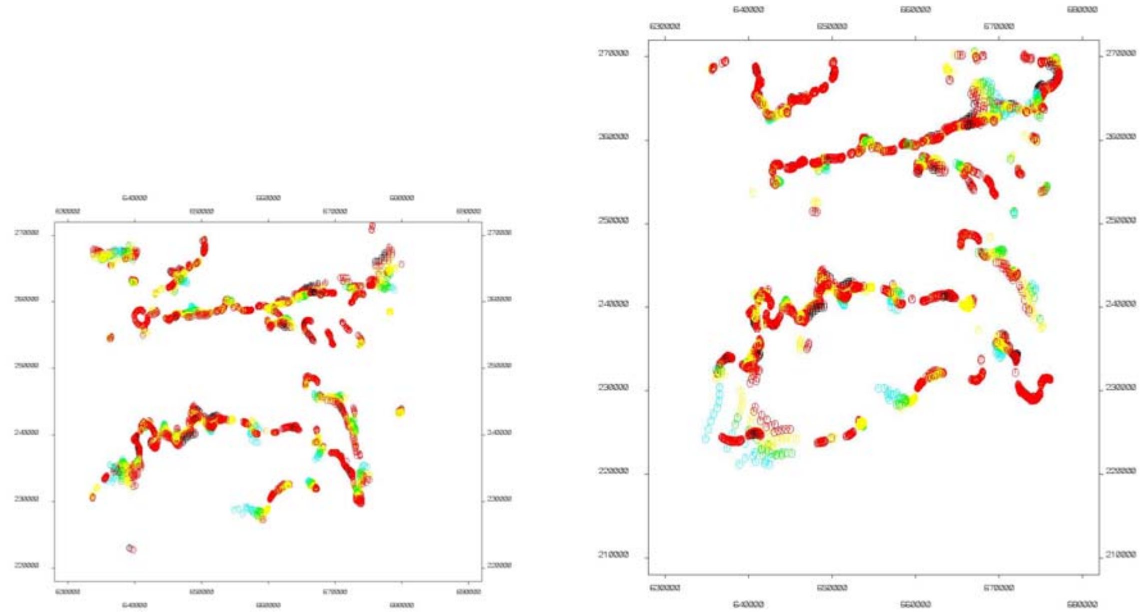
Results of the Euler deconvolution in 3D of the unstripped residual fields

Representation in 2 dimensions

The maps of the solutions corresponding of the three types of residual fields (first, second and third degree) applied on the zone 11 unstripped are presented in the first three figures while the following figures show the same solutions but in 3 dimensions.

The colors code is the following

Black: from -3500 to -2000, Red : from -2000 to -1500, Yellow : from -1500 to -1000,
Green : from -1000 to -500, Blue : from - 500 to 0 meters below the surface.



Figures 3a and 3b: Maps of the solutions of the 3D Euler deconvolution of the zone # 6, for the residual fields of degree 1 and 2.

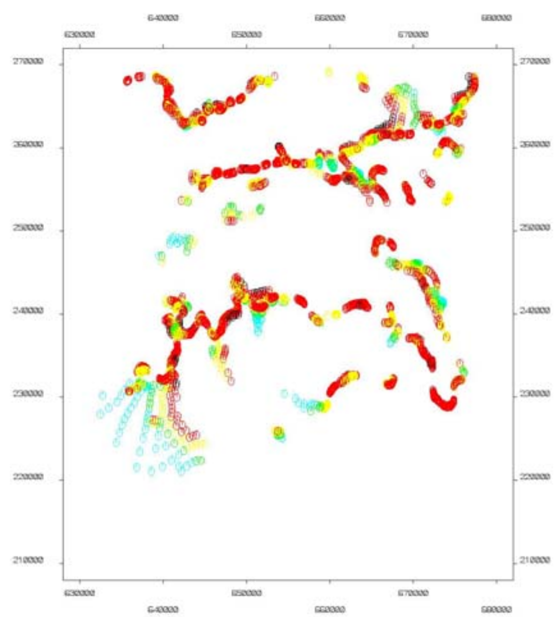
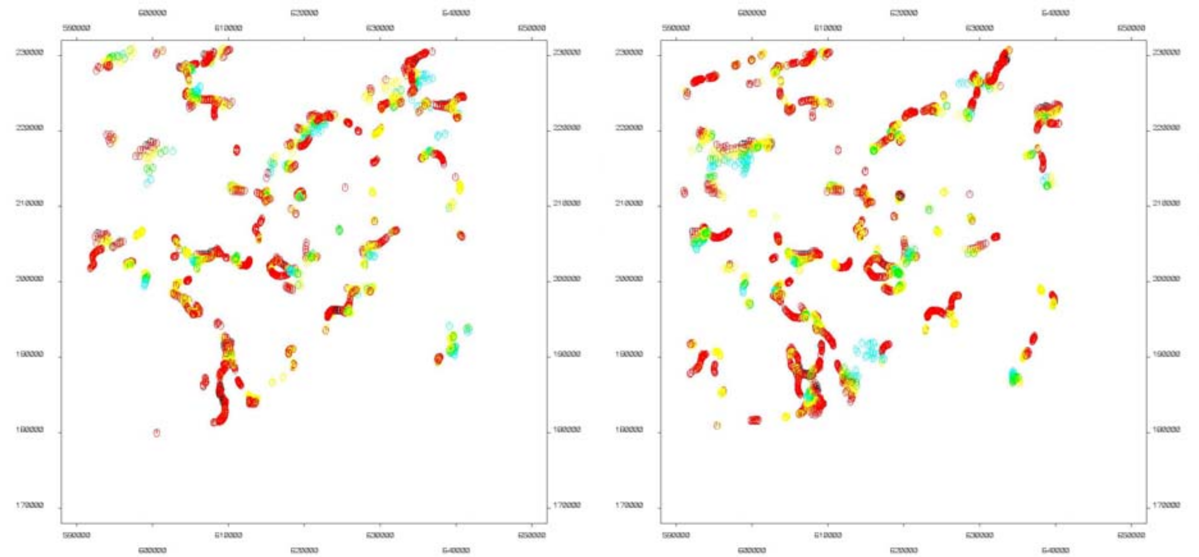


Figure 3c: Maps of the solutions of the 3D Euler deconvolution of the zone # 6, for the residual field of degree 3.



Figures 4a and 4b: Maps of the solutions of the 3D Euler deconvolution of the zone # 7, for the residual fields of degree 1 and 2.

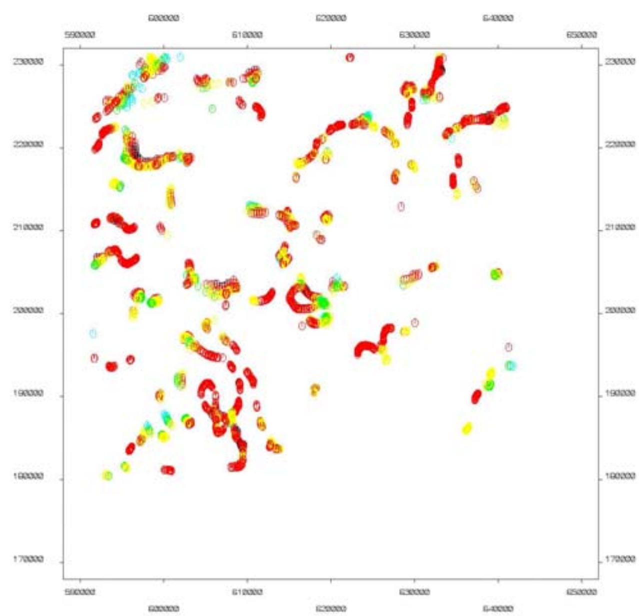
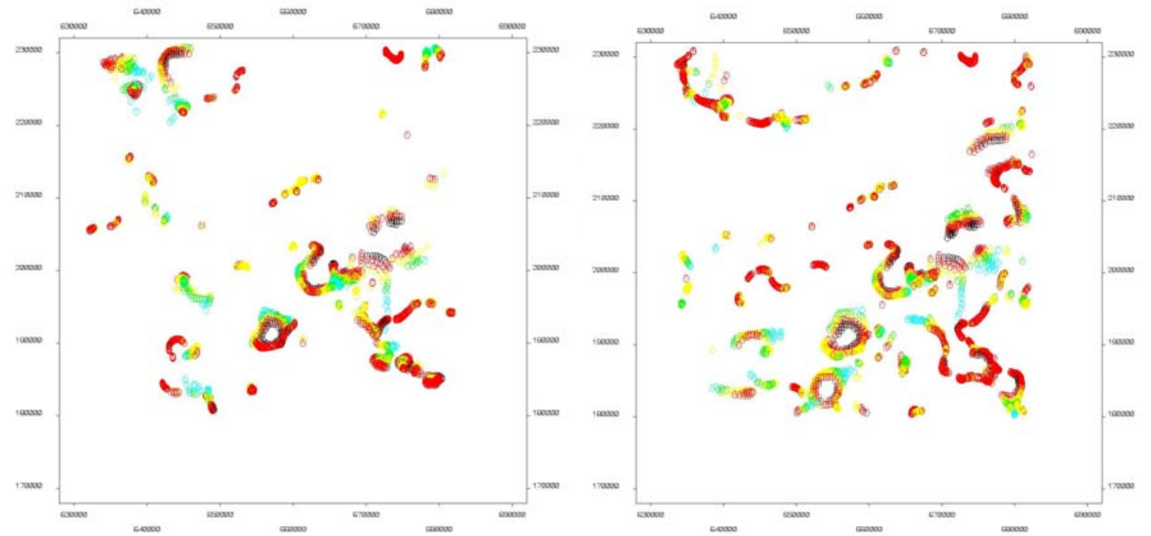


Figure 4c: Maps of the solutions of the 3D Euler deconvolution of the zone # 7, for the residual field of degree 3.



Figures 5a and 5b: Maps of the solutions of the 3D Euler deconvolution of the zone # 8, for the residual fields of degree 1 and 2.

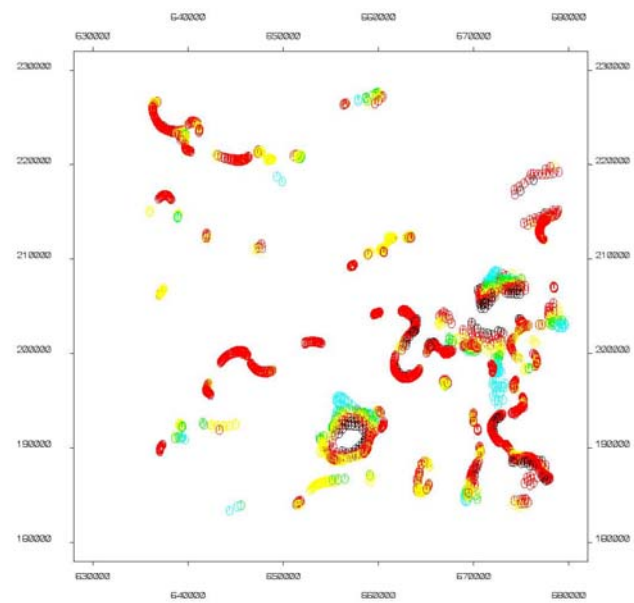
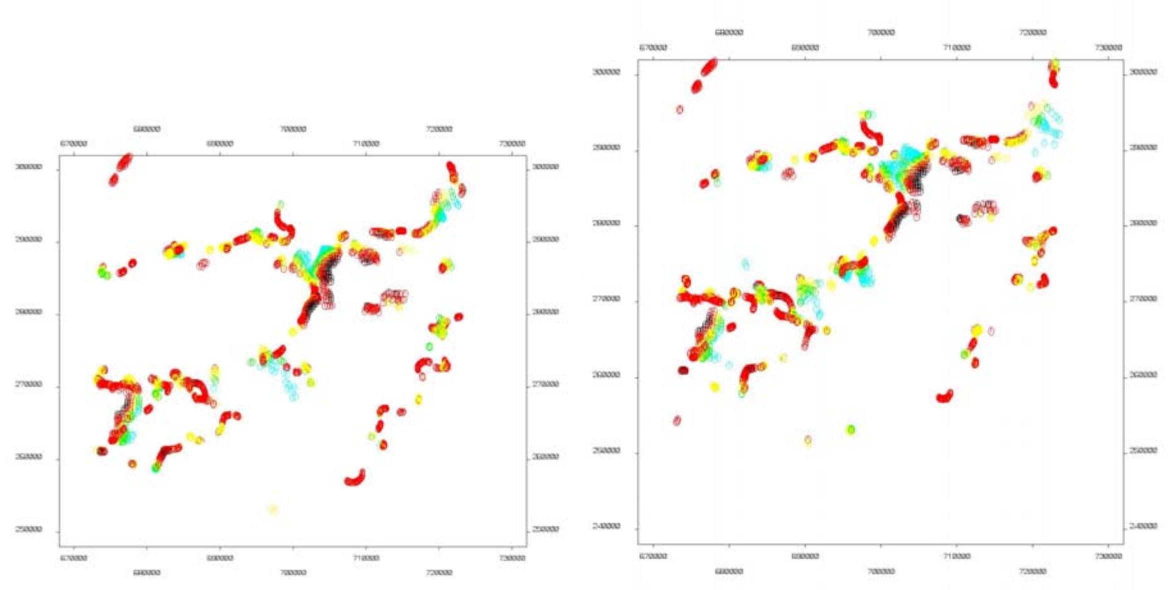


Figure 5c: Maps of the solutions of the 3D Euler deconvolution of the zone # 8, for the residual field of degree 3.



Figures 6a and 6b: Maps of the solutions of the 3D Euler deconvolution of the zone # 9, for the residual fields of degree 1 and 2.

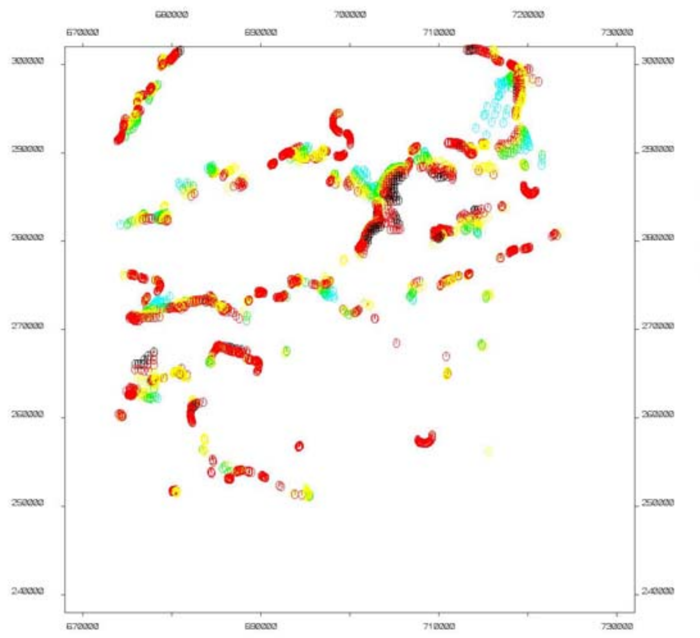
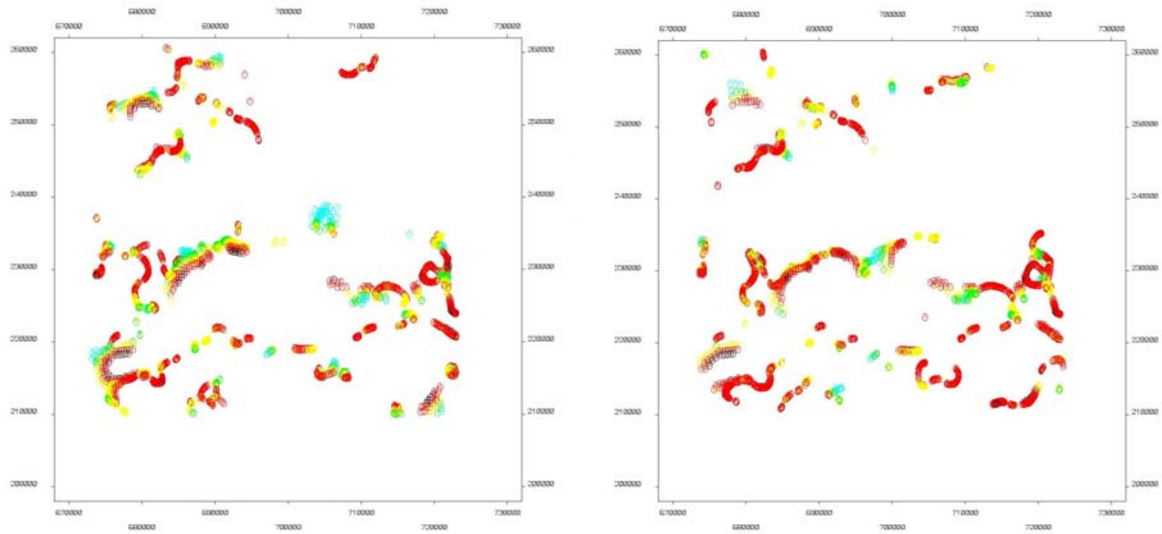


Figure 6c: Maps of the solutions of the 3D Euler deconvolution of the zone # 9, for the residual field of degree 3.



Figures 7 a and 7b: Maps of the solutions of the 3D Euler deconvolution of the zone # 10, for the residual fields of degree 1 and 2.

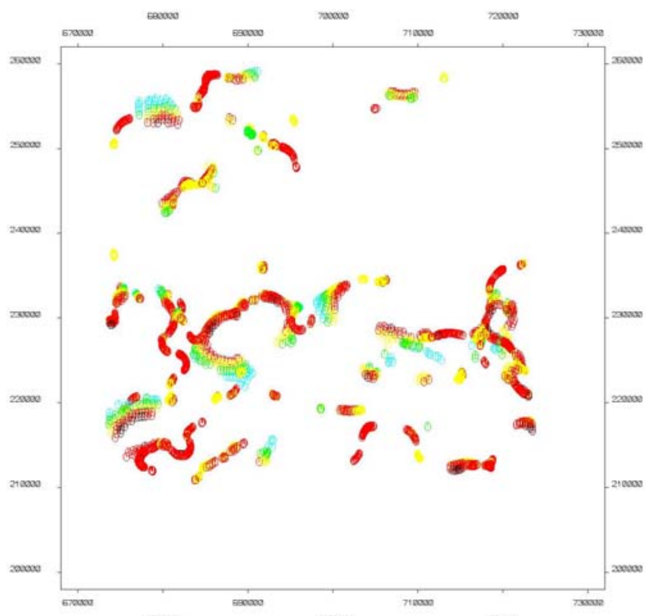
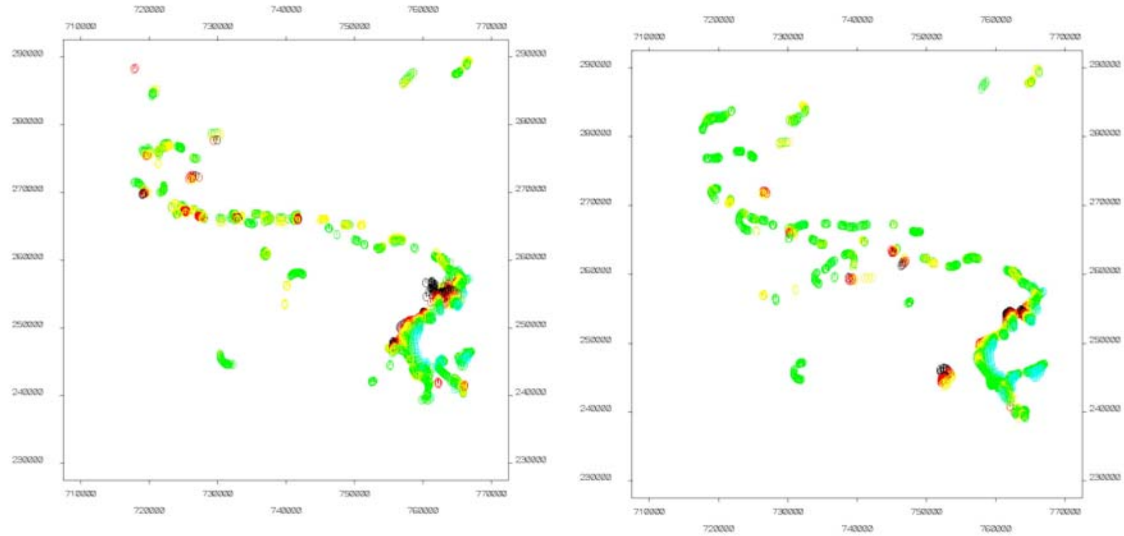


Figure 7c: Maps of the solutions of the 3D Euler deconvolution of the zone # 10, for the residual field of degree 3.



Figures 8a and 8b: Maps of the solutions of the 3D Euler deconvolution of the zone # 11, for the residual fields of degree 1 and 2.

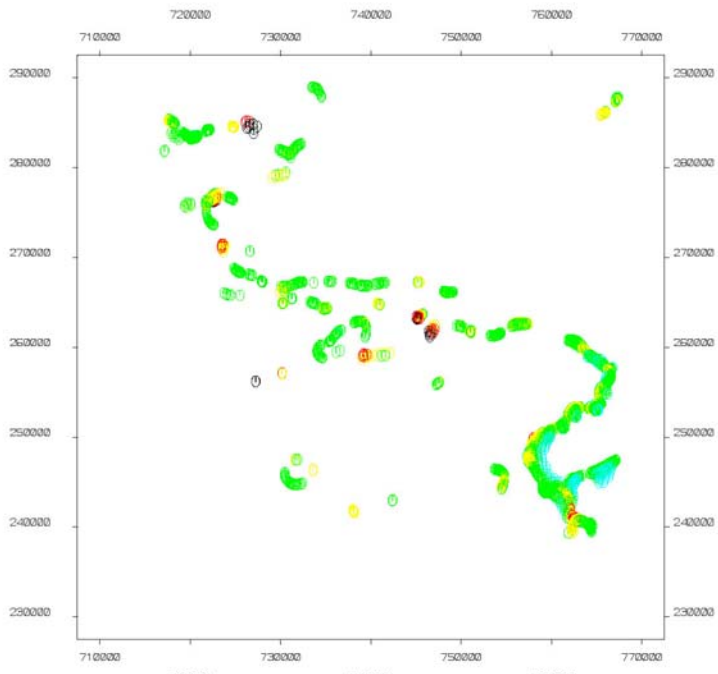
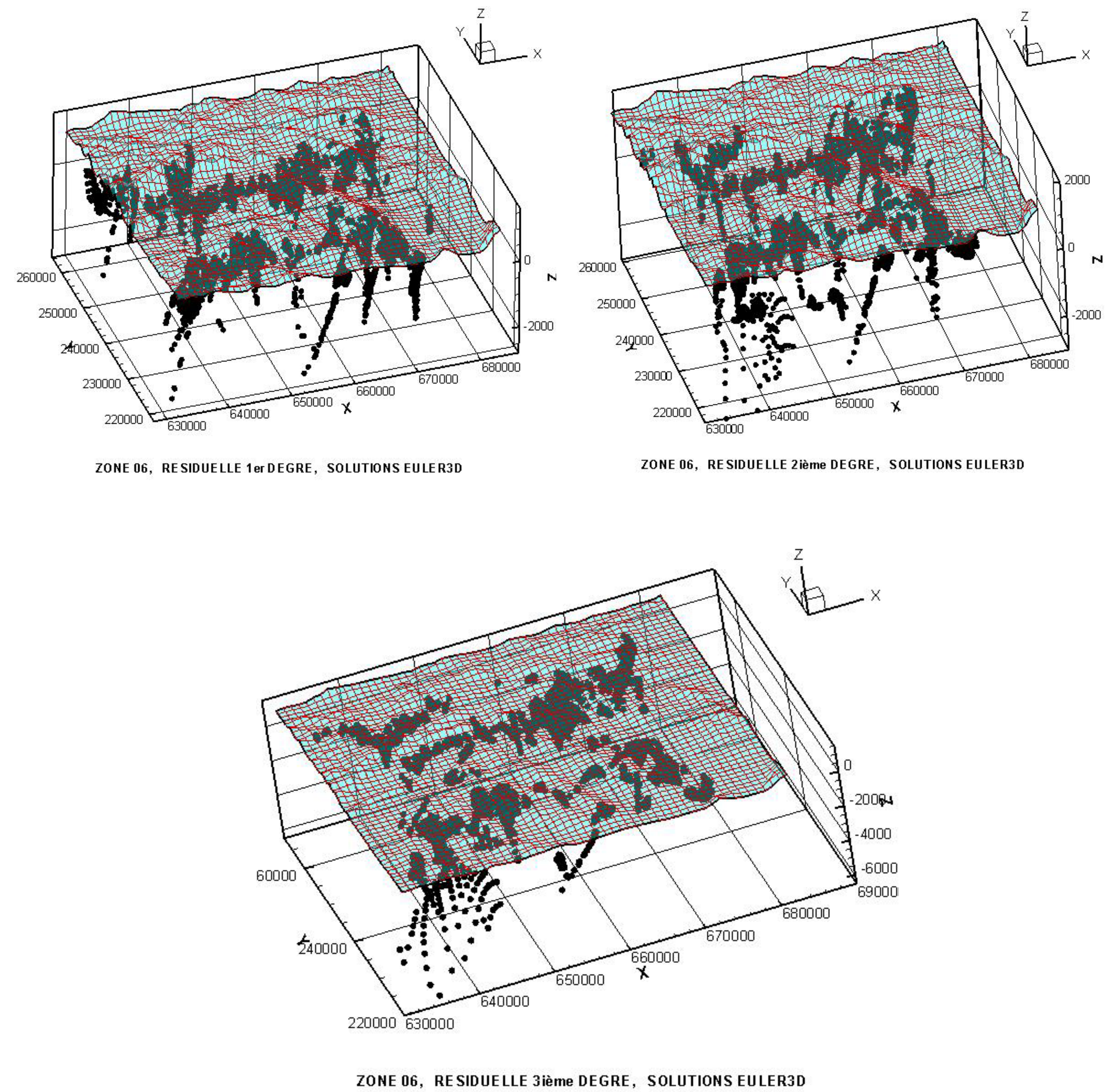
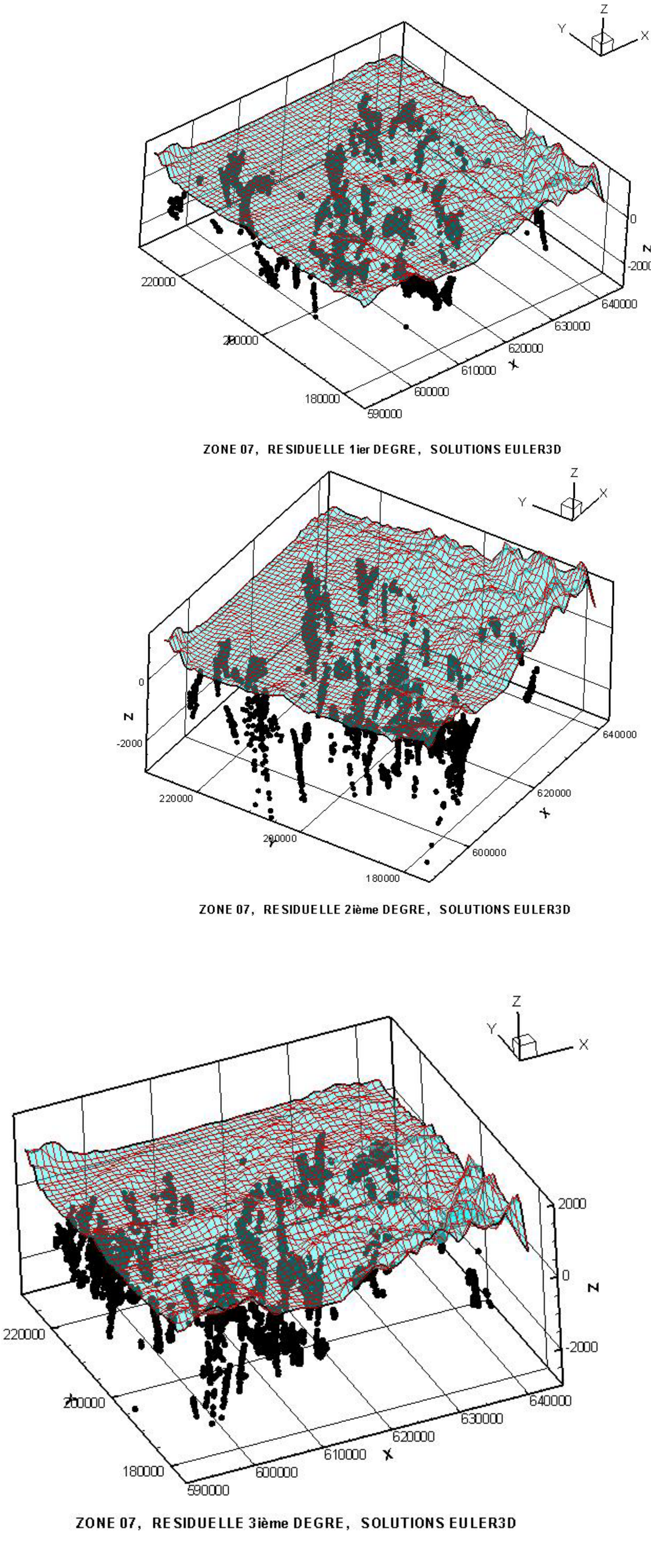


Figure 8: Maps of the solutions of the 3D Euler deconvolution of the zone # 6, for the residual field of degree 3.

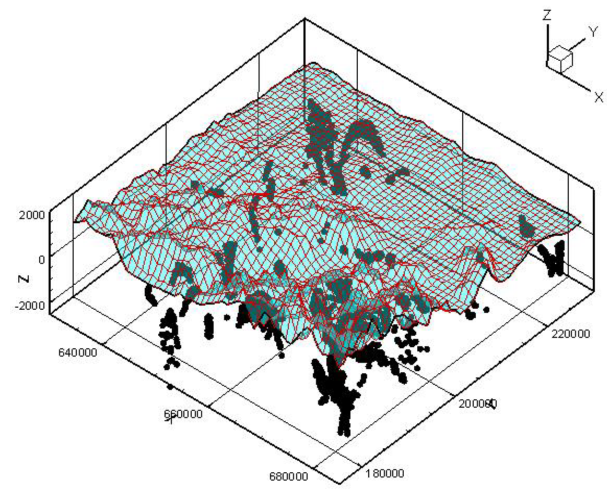
Representation in 3 dimensions



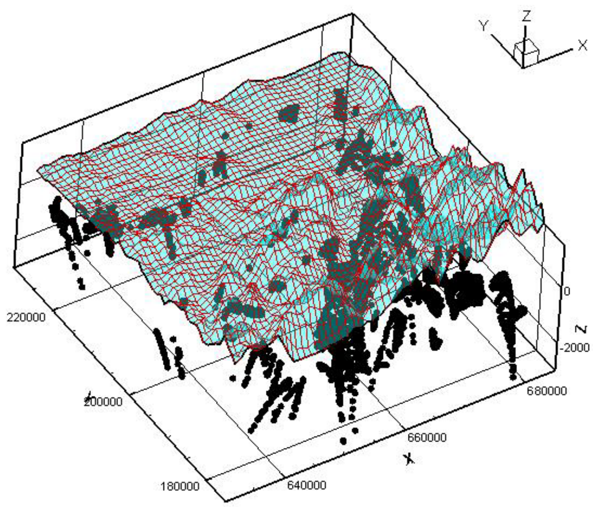
Figures 9a-9c: Three dimensional representations of the solutions of the 3D Euler deconvolution of zone # 6 for the residual fields of degree 1 to 3



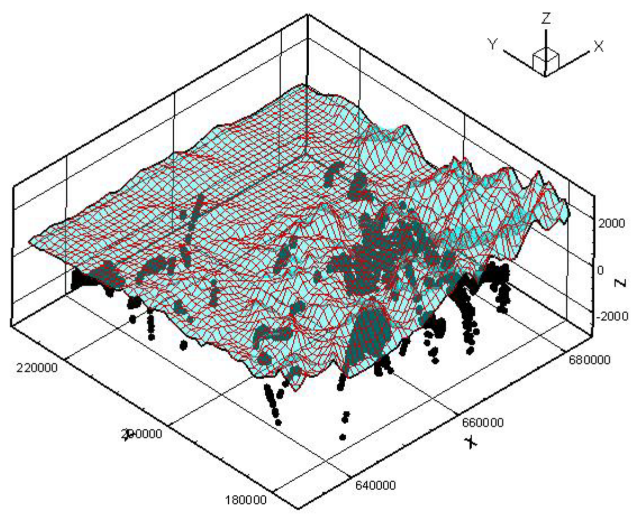
Figures 10a-10c: Three dimensional representations of the solutions of the 3D Euler deconvolution of zone # 7 for the residual fields of degree 1 to 3



ZONE 08, RESIDUELLE 1ier DEGRE, SOLUTIONS EULER3D

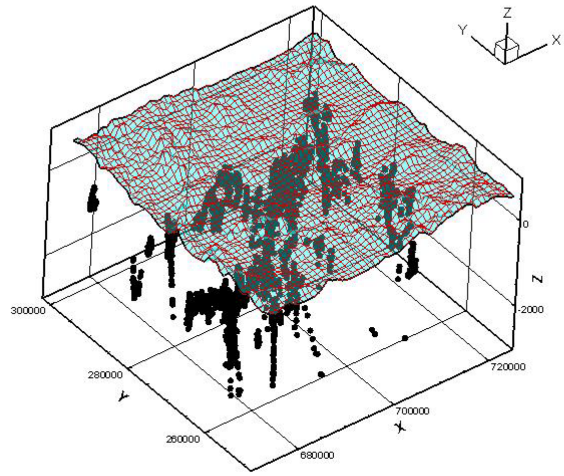


ZONE 08, RESIDUELLE 2ième DEGRE, SOLUTIONS EULER3D

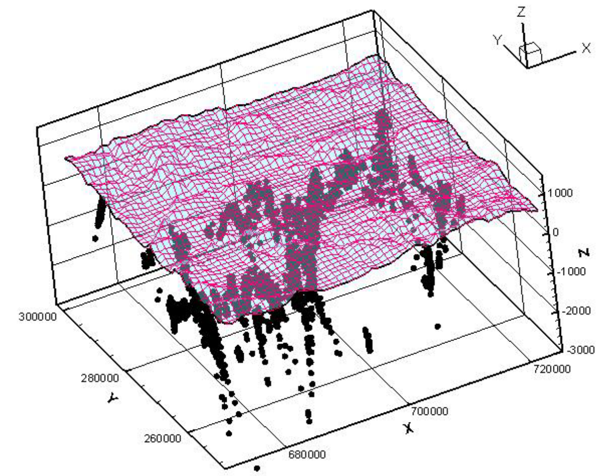


ZONE 08, RESIDUELLE 3ième DEGRE, SOLUTIONS EULER3D

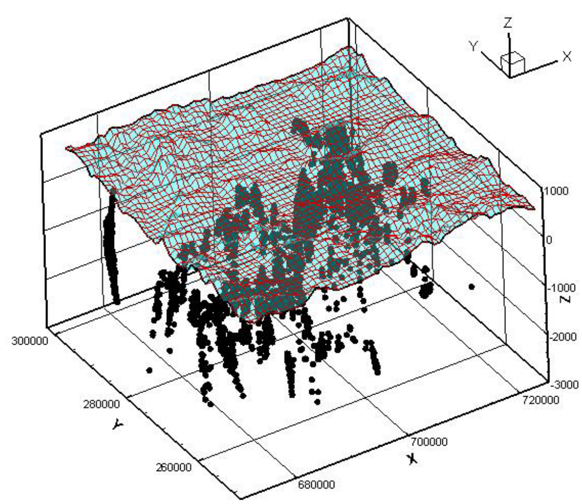
Figures 11a-11c: Three dimensional representations of the solutions of the 3D Euler deconvolution of zone # 8 for the residual fields of degree 1 to 3



ZONE 09, RESIDUELLE 1ier DEGRE, SOLUTIONS EULER3D

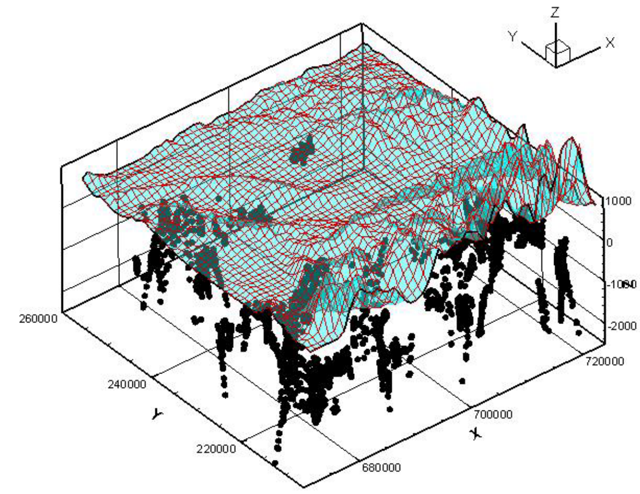


ZONE 09, RESIDUELLE 2ième DEGRE, SOLTIONS EULER3D

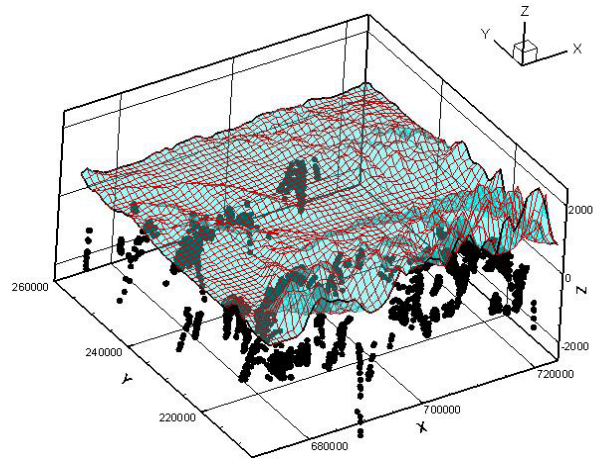


ZONE 09, RESIDUELLE 3ième DEGRE, SOLUTIONS EULER3D

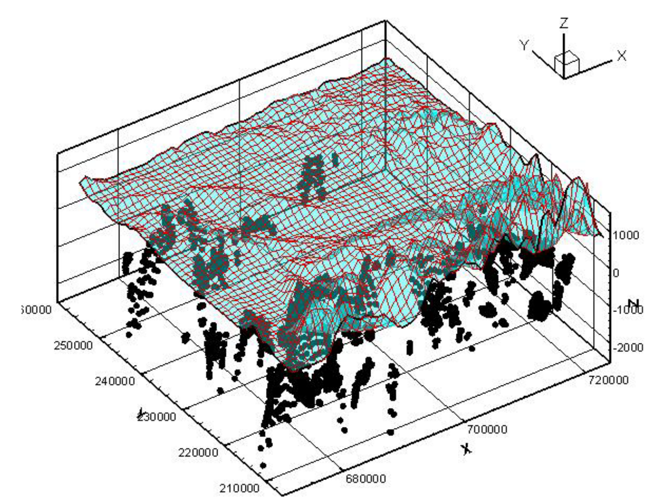
Figures 12a-12c: Three dimensional representations of the solutions of the 3D Euler deconvolution of zone # 9 for the residual fields of degree 1 to 3



ZONE 10, RESIDUELLE 1 ier DEGRE, SOLUTIONS EULER3D

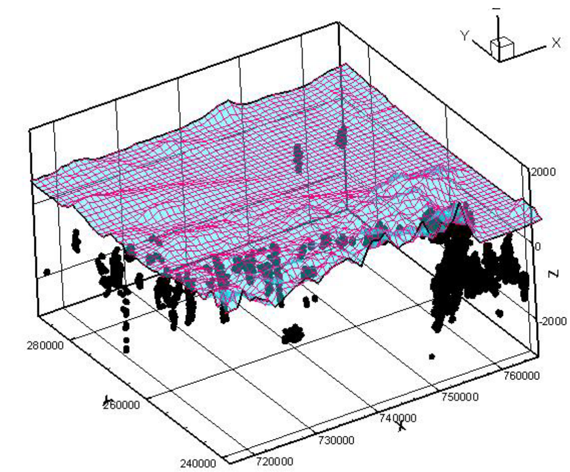


ZONE 10, RESIDUELLE 2 ième DEGRE, SOLUTIONS EULER3D

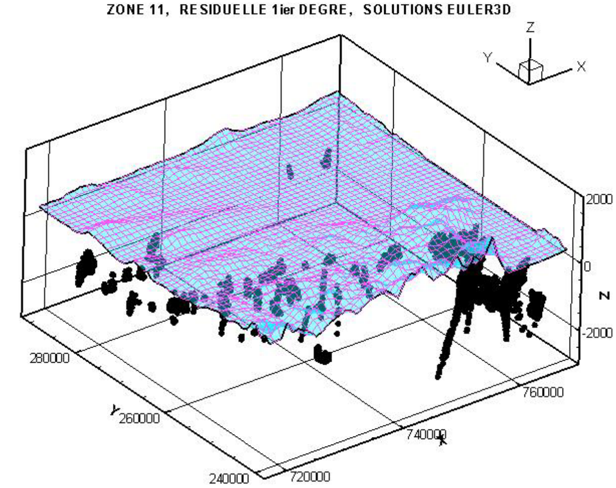


ZONE 10, RESIDUELLE 3ieme DEGRE, SOLUTIONS EULER3D

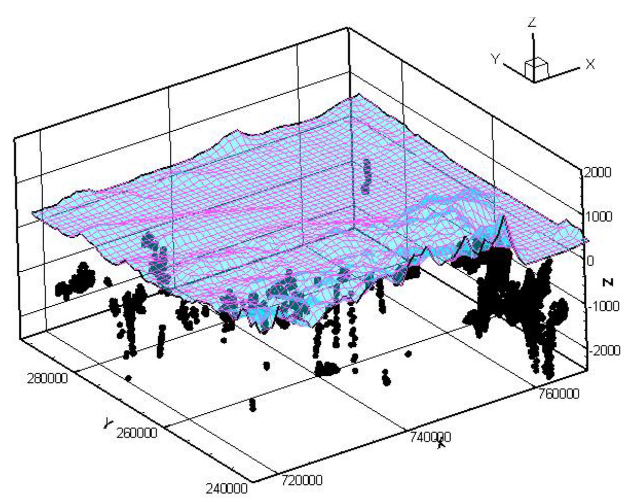
Figures 13a-13c: Three dimensional representations of the solutions of the 3D Euler deconvolution of zone # 10 for the residual fields of degree 1 to 3



ZONE 11, RESIDUELLE 1ier DEGRE, SOLUTIONS EULER3D



ZONE 11, RESIDUELLE 2ième DEGRE, SOLUTIONS EULER3D

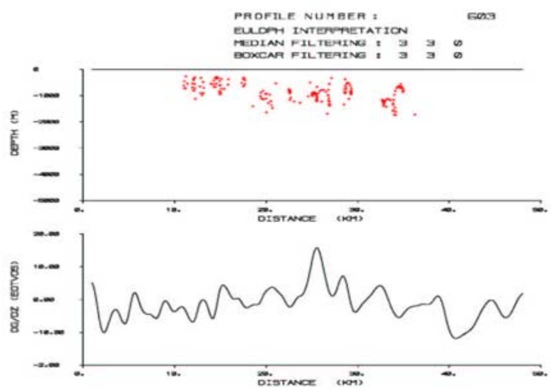


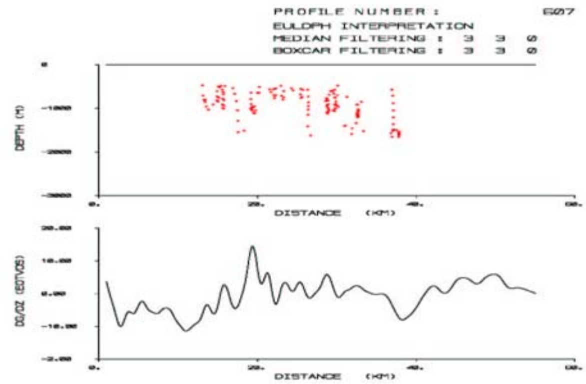
ZONE 11, RESIDUELLE 3ième DEGRE, SOLUTIONS EULER3D

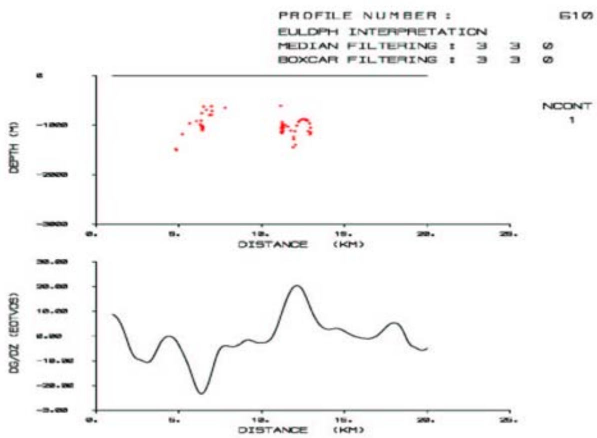
Figures 14a-14c: Three dimensional representations of the solutions of the 3D Euler deconvolution of zone # 11 for the residual fields of degree 1 to 3

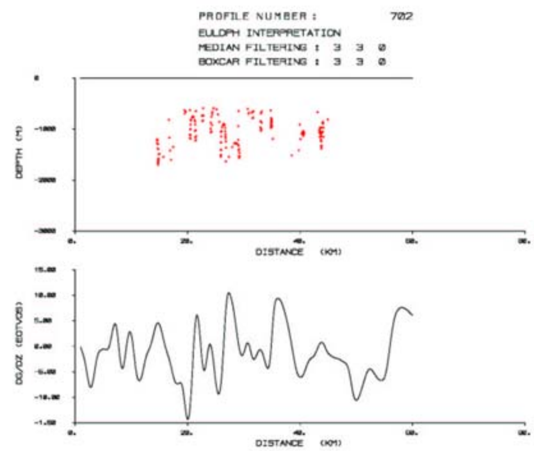
Results of the Euler deconvolution in 2D of the unstripped zones 6 to 11.

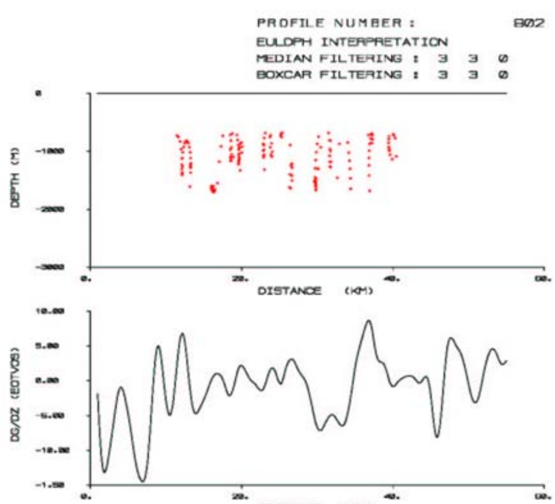
In order to not overload this report, only some examples are presented in this paragraph. The whole results (zones 1 to 11) are presented in the annex I of the printed report.

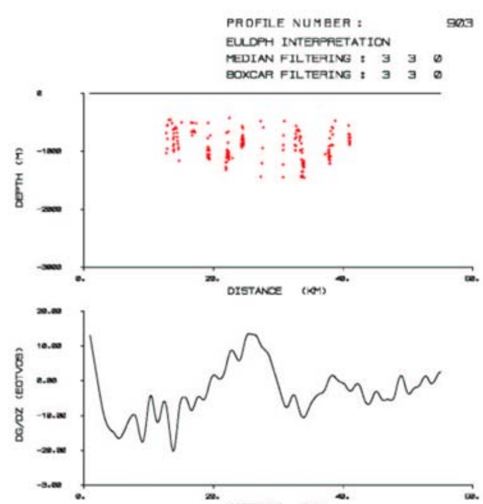


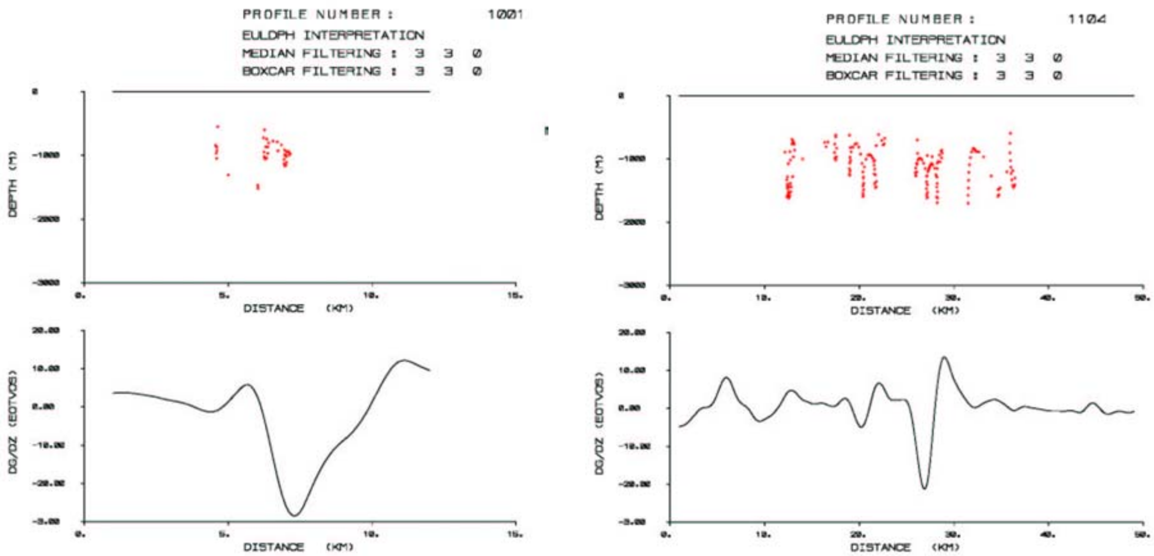








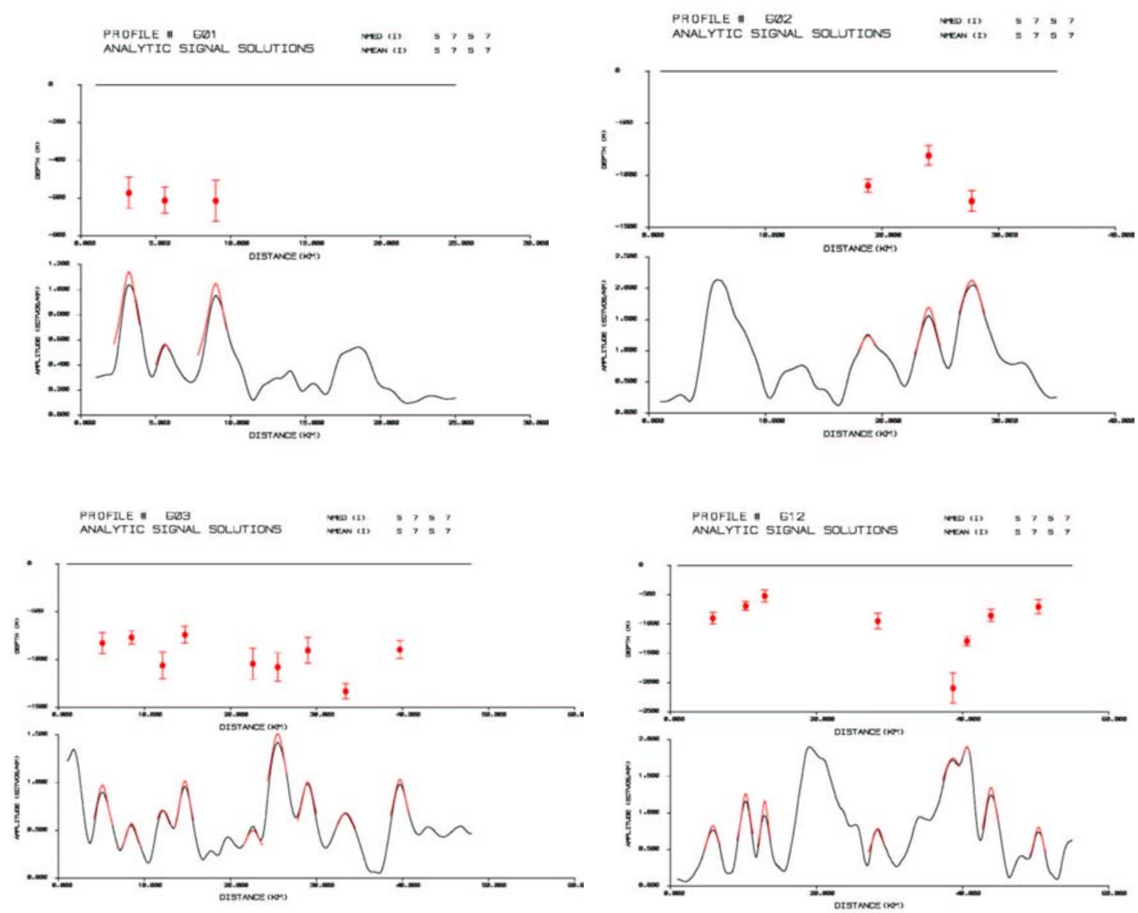


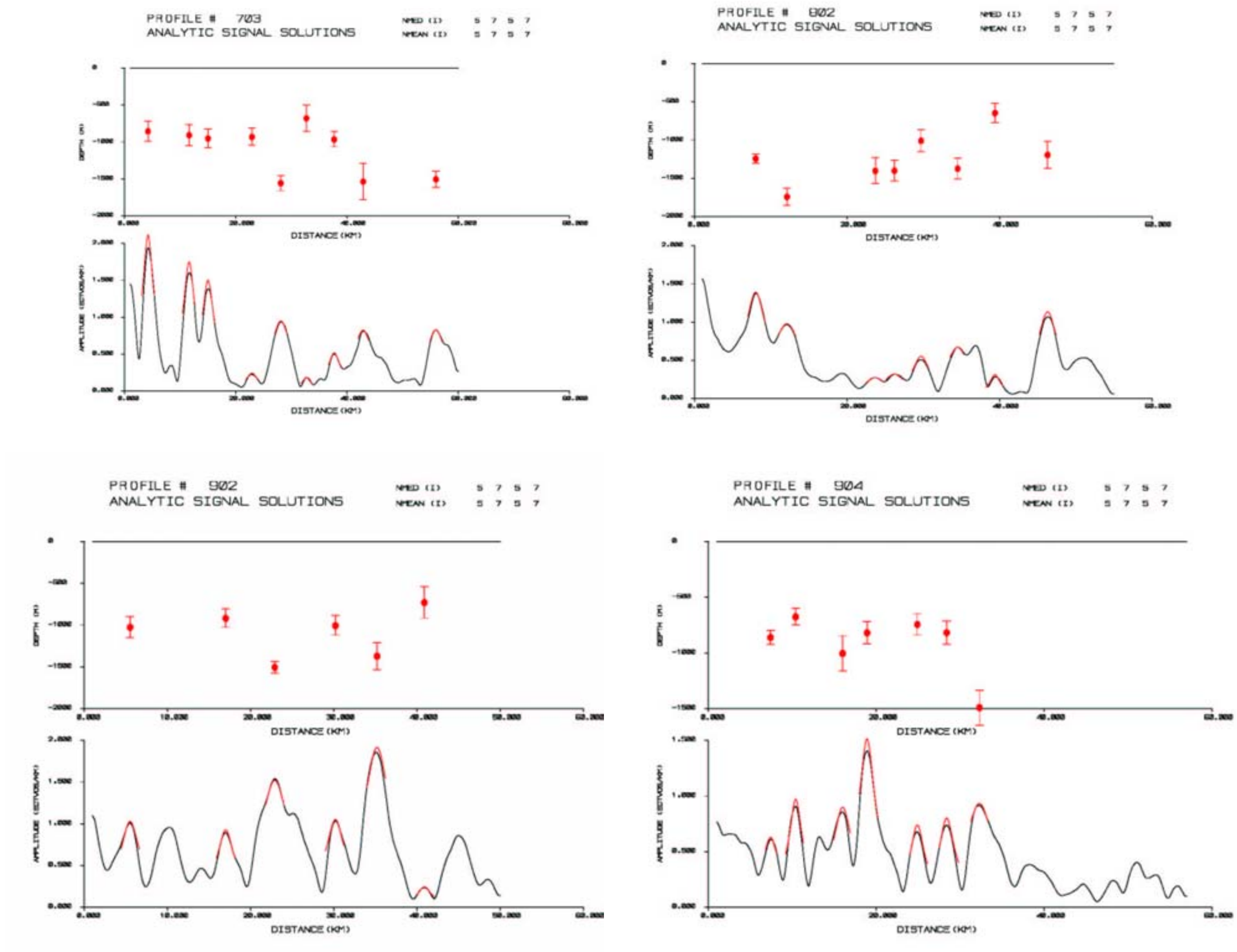


Figures 15a-15h: Examples of the 2D Euler deconvolution on profiles of the unstripped zones 6 to 11.

Results of the interpretation, by the method of the analytic signal in 2D, of the unstripped zones 6 to 11.

For the same reason as given in the preceding paragraph only some examples are presented here.

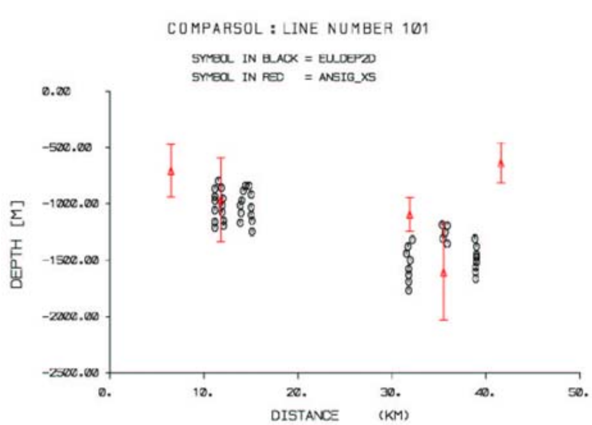


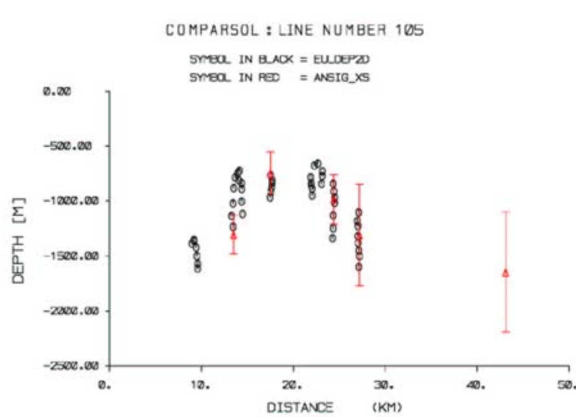


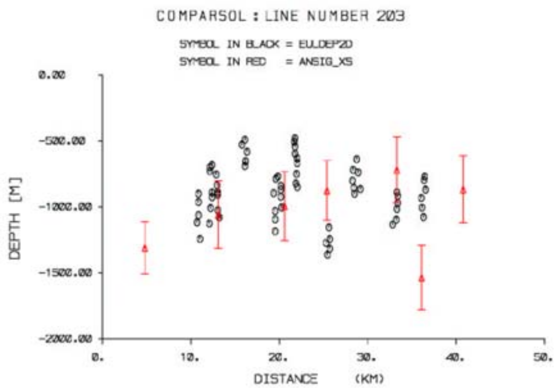
Figures 16a-16h: Examples of the solutions obtained by the method of the analytic signal in 2D on profiles of the unstripped zones 6 to 11.

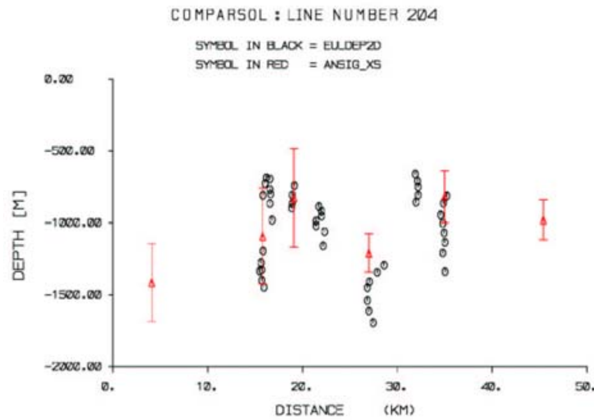
Comparison between results obtained by the 2D Euler deconvolution and those obtained by the method of the analytic signal in 2D; for the unstripped zone 6 to 11.

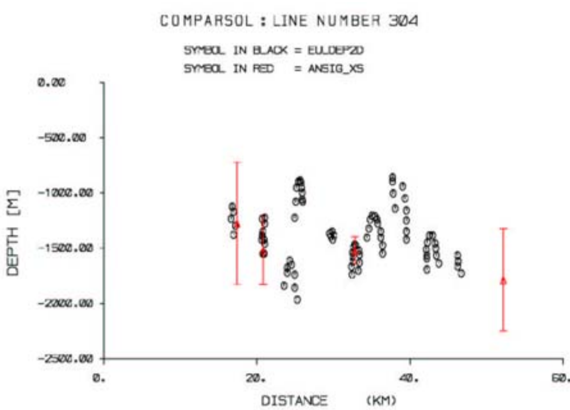
Also here only some examples are shown. The whole results are in the annex of the printed version of this report.

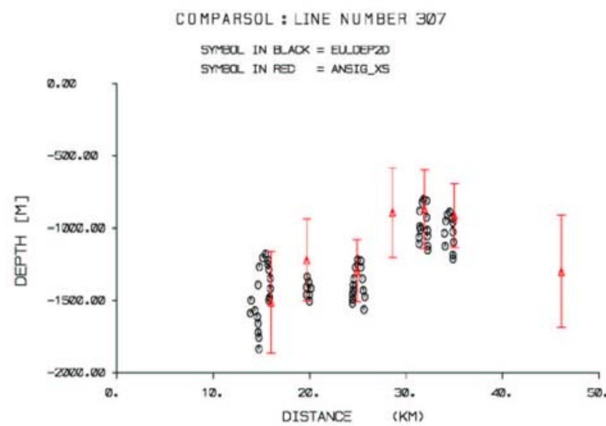


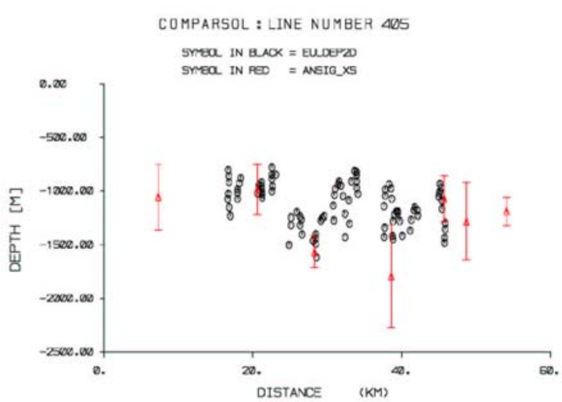


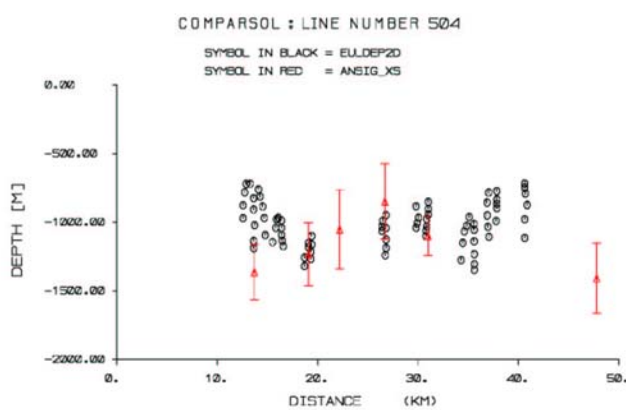

COMPARSOL : LINE NUMBER 203
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

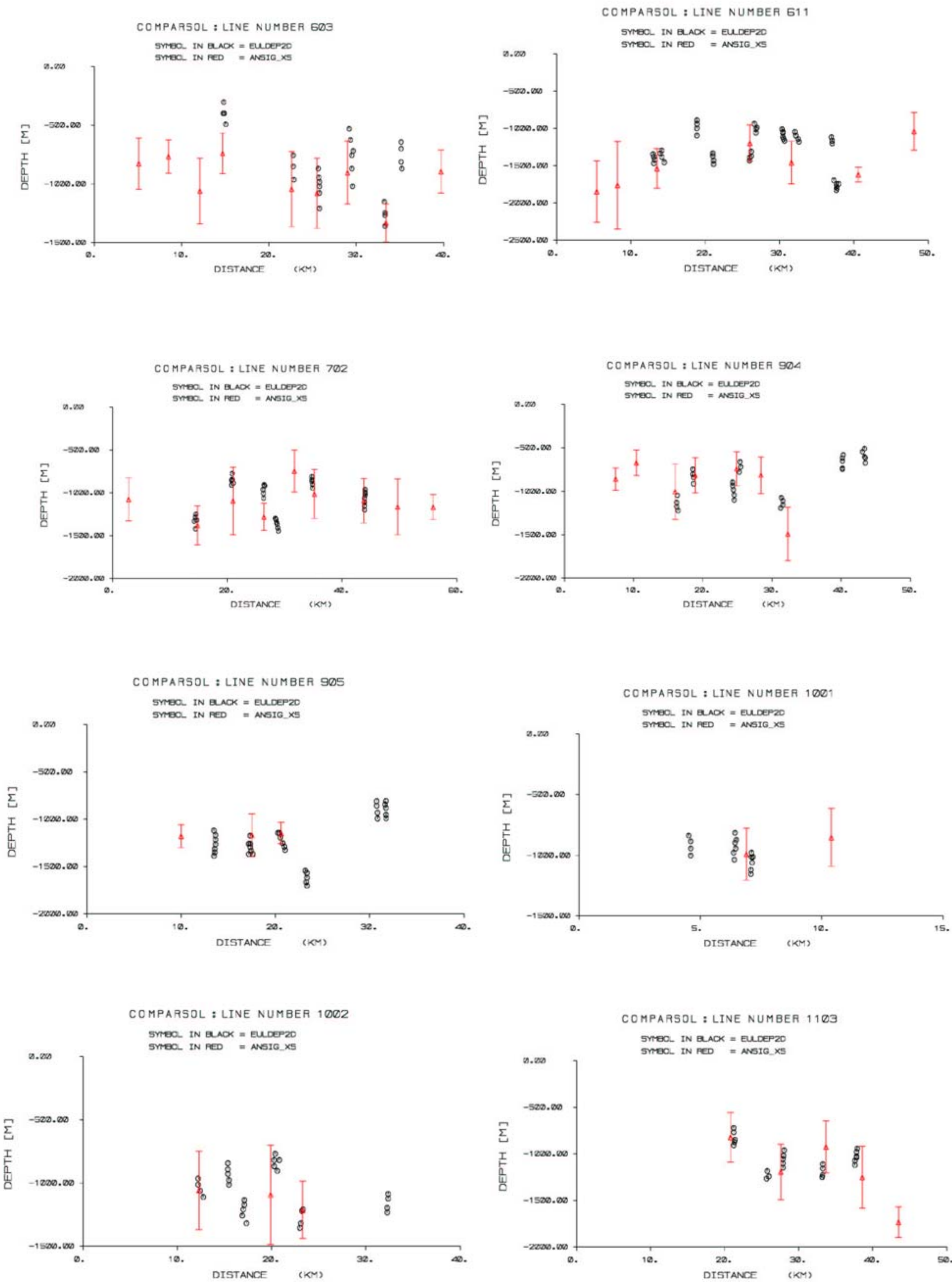

COMPARSOL : LINE NUMBER 204
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)


COMPARSOL : LINE NUMBER 304
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)


COMPARSOL : LINE NUMBER 307
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)


COMPARSOL : LINE NUMBER 405
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

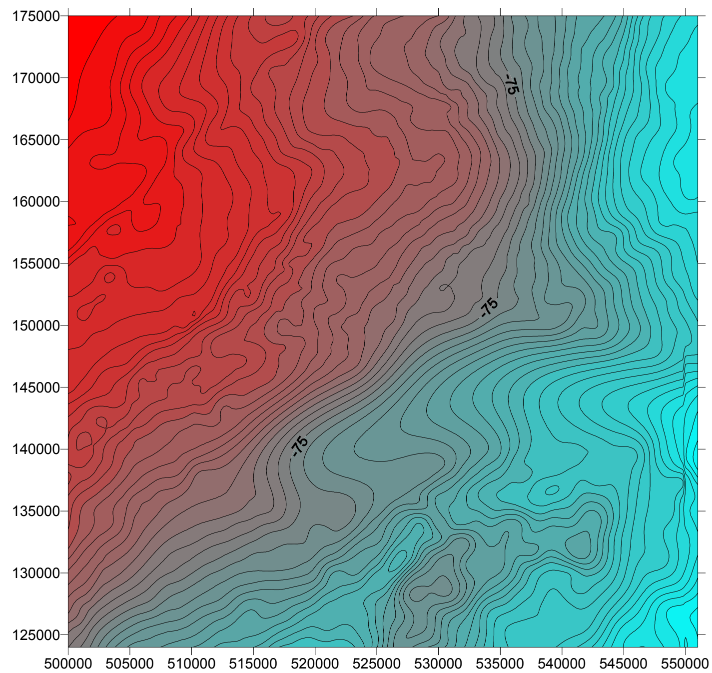

COMPARSOL : LINE NUMBER 504
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)



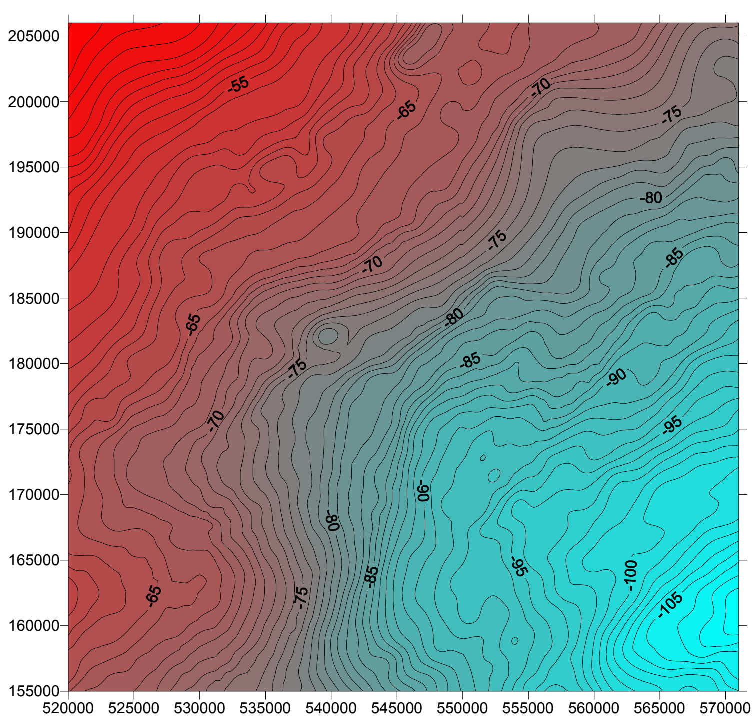
Figures 17a-15p: Examples of comparisons between solution of the 2D Euler deconvolution and the solutions obtained by the method of the analytic signal in 2D.

The stripping

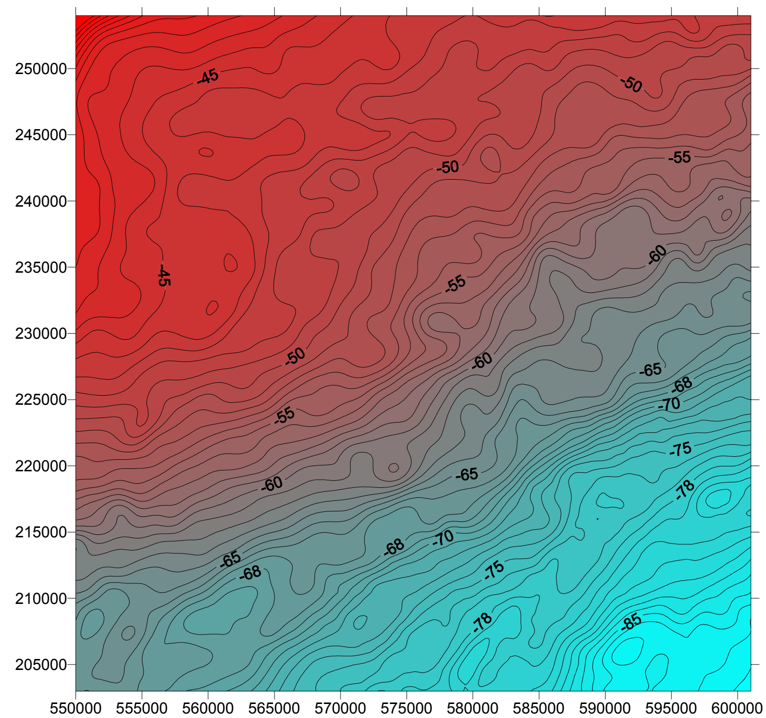
The grid of the Bouguer anomalies of zones 1 to 11 have been stripped by means of the grid of the effects of the quaternary sediments, (described in the 2006 report), with a density contrast of 0.2 g/cm3. This density contrast has been obtained considering that the quaternary sediments are like a disturbing body inserted into the Molasse and consequently one has only to take into account the density of these two formations. The maps of the stripped Bouguer anomalies of the zones 1 to 11 are shown in figures18a to 18k



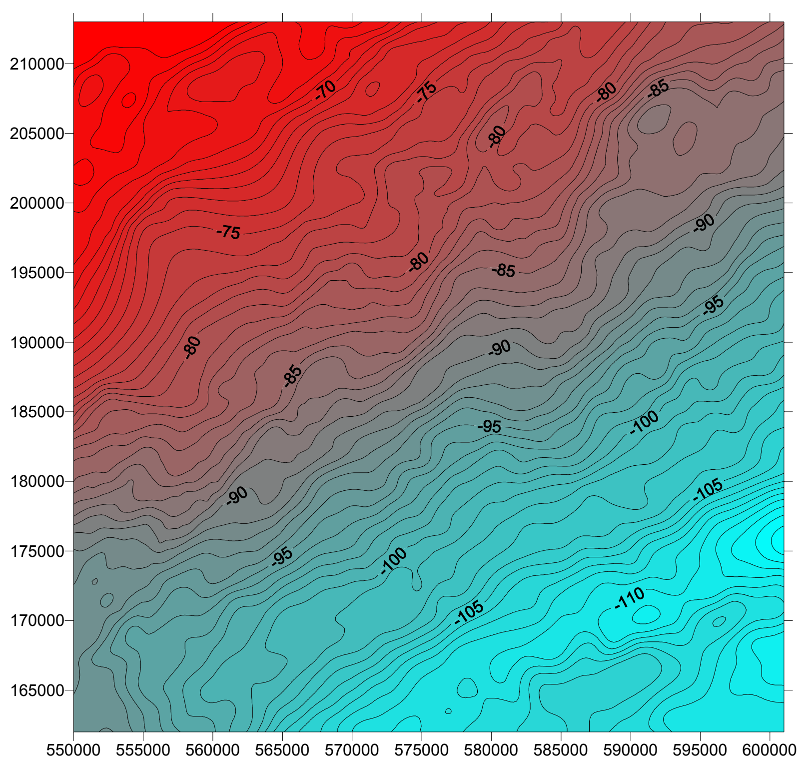
ZONE # 01
Anomalie de Bouguer strippée



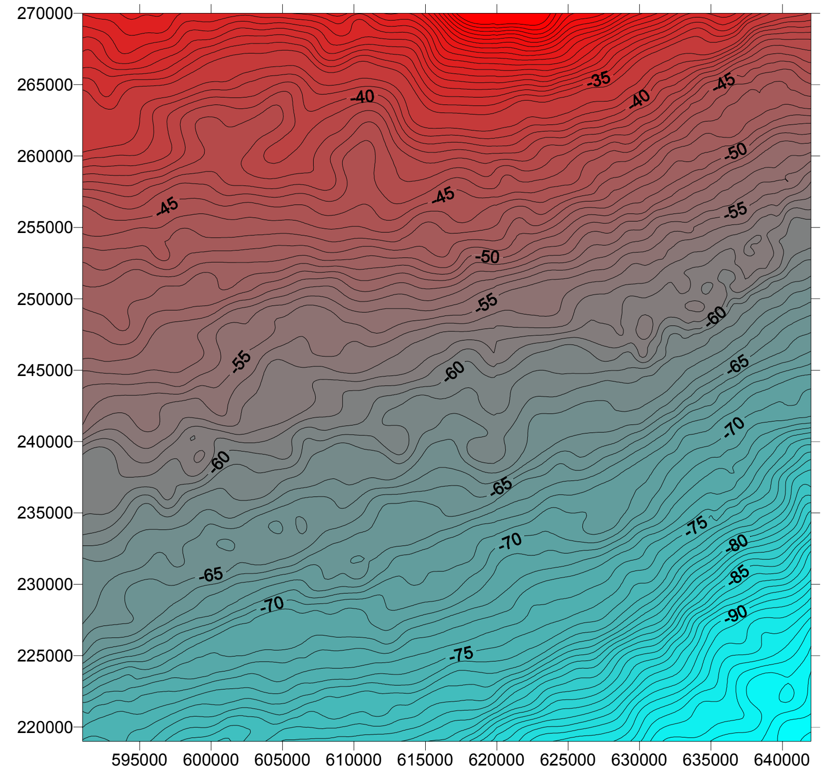
ZONE # 02
Anomalie de Bouguer strippée



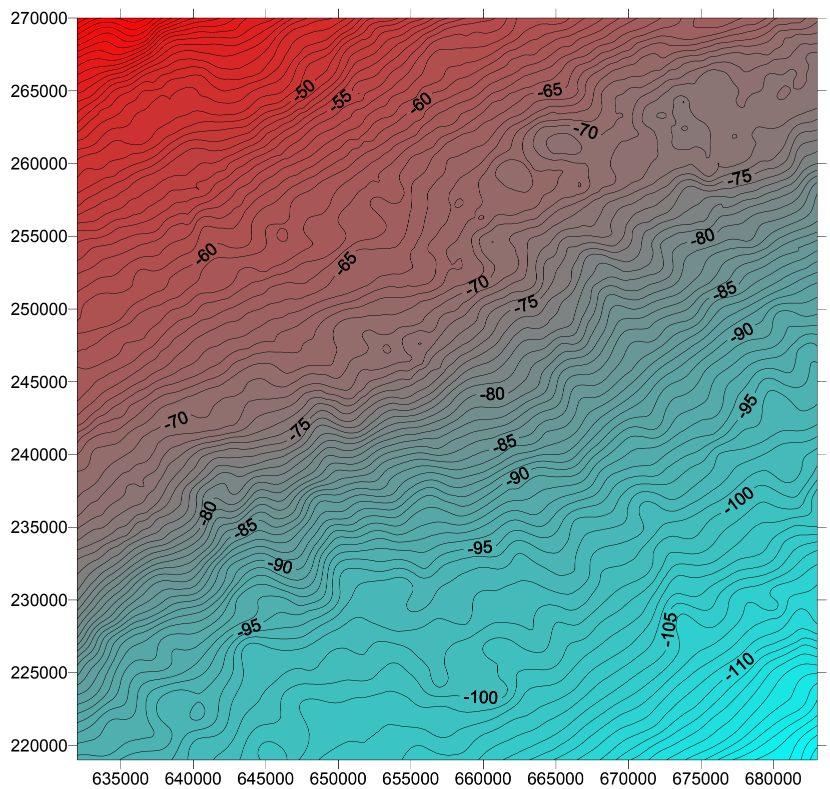
ZONE # 03
Anomalie de Bouguer strippée



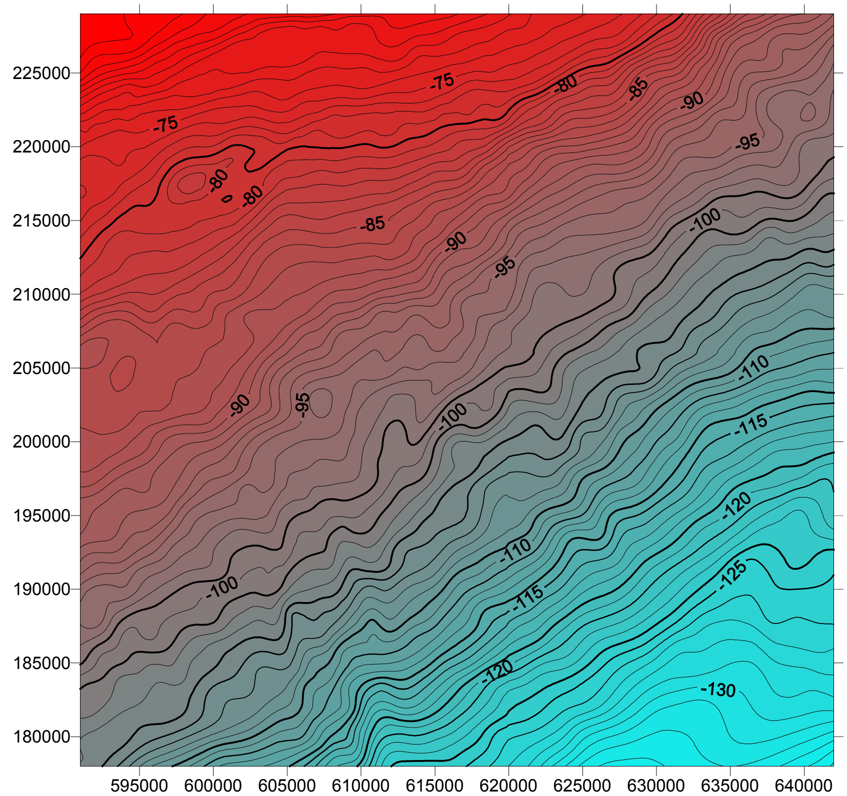
ZONE # 04
Anomalie de Bouguer strippée



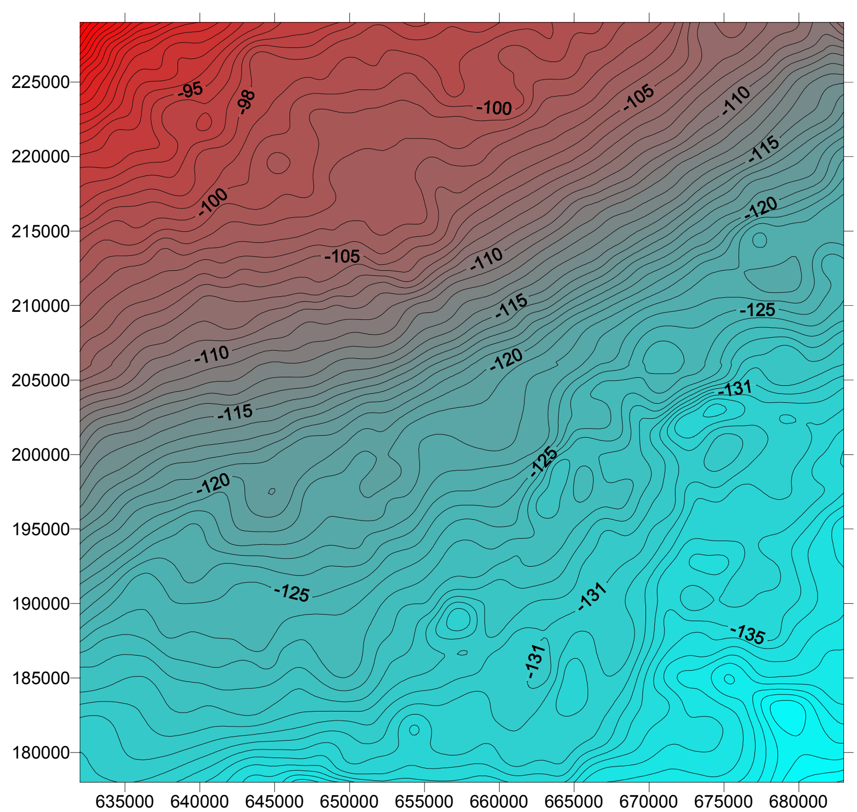
ZONE # 05
Anomalie de Bouguer strippée



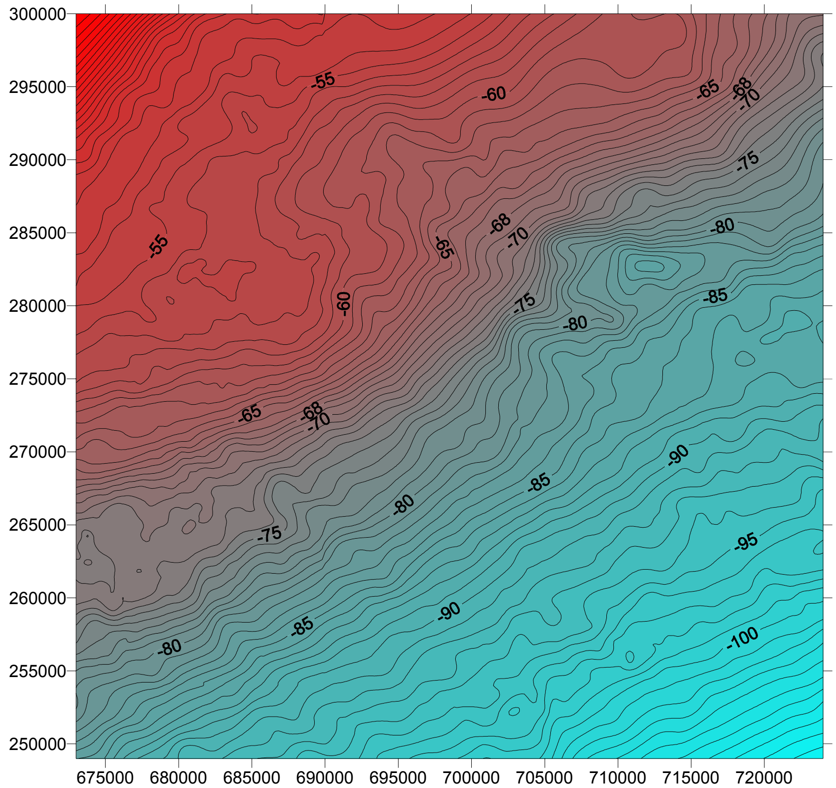
ZONE # 06
Anomalie de Bouguer strippée



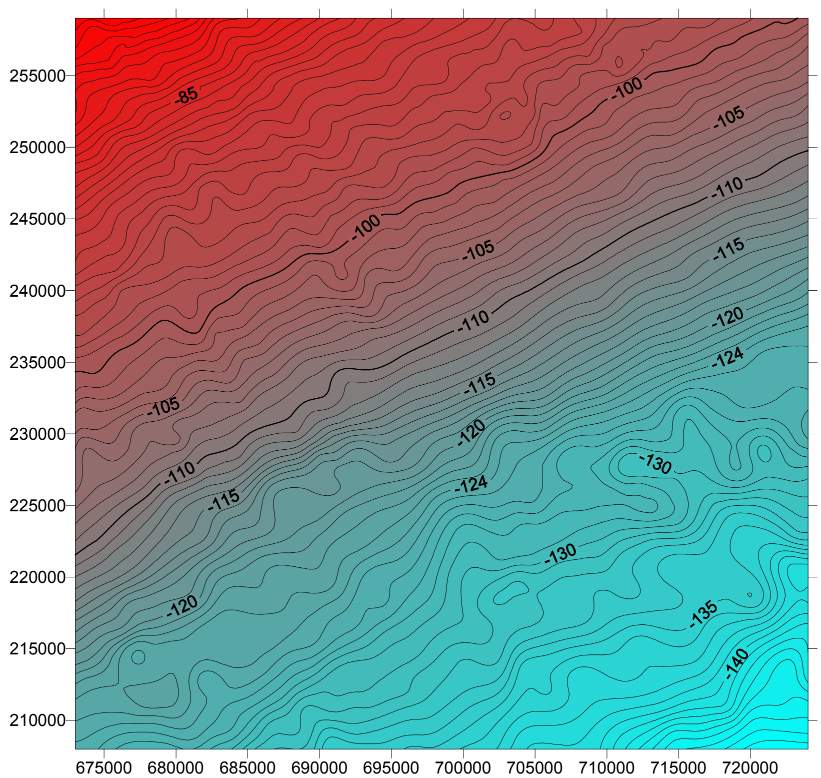
ZONE # 07
Anomalie de Bouguer strippée



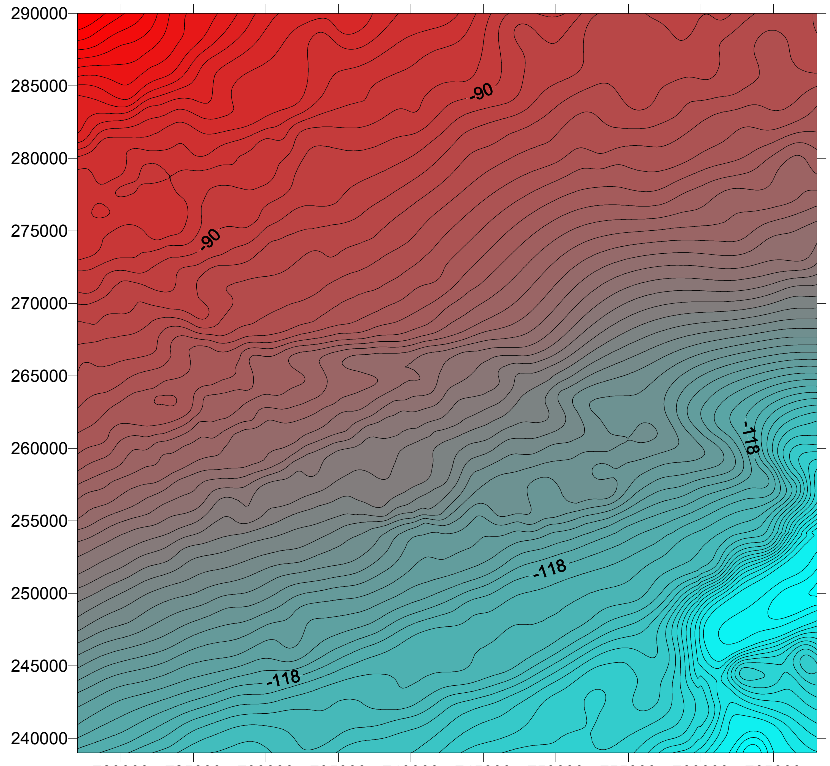
ZONE # 08
Anomalie de Bouguer strippée



ZONE # 09
Anomalie de Bouguer strippée



ZONE # 10
Anomalie de Bouguer strippée

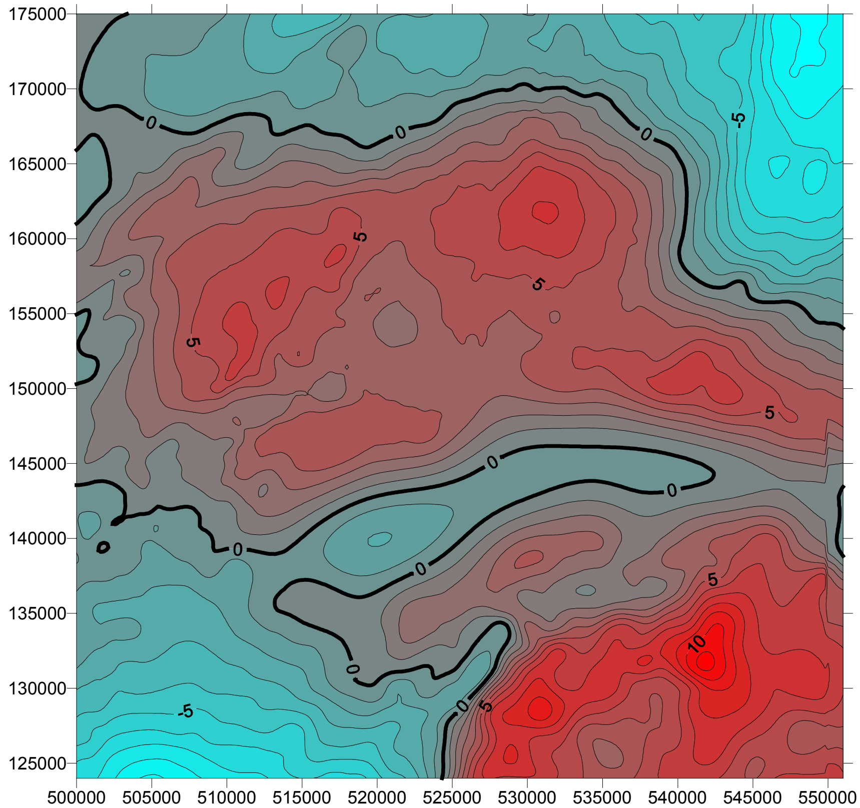


Figures 18a-18k: Maps of the stripped Bouguer anomalies of the zones 1 to 11

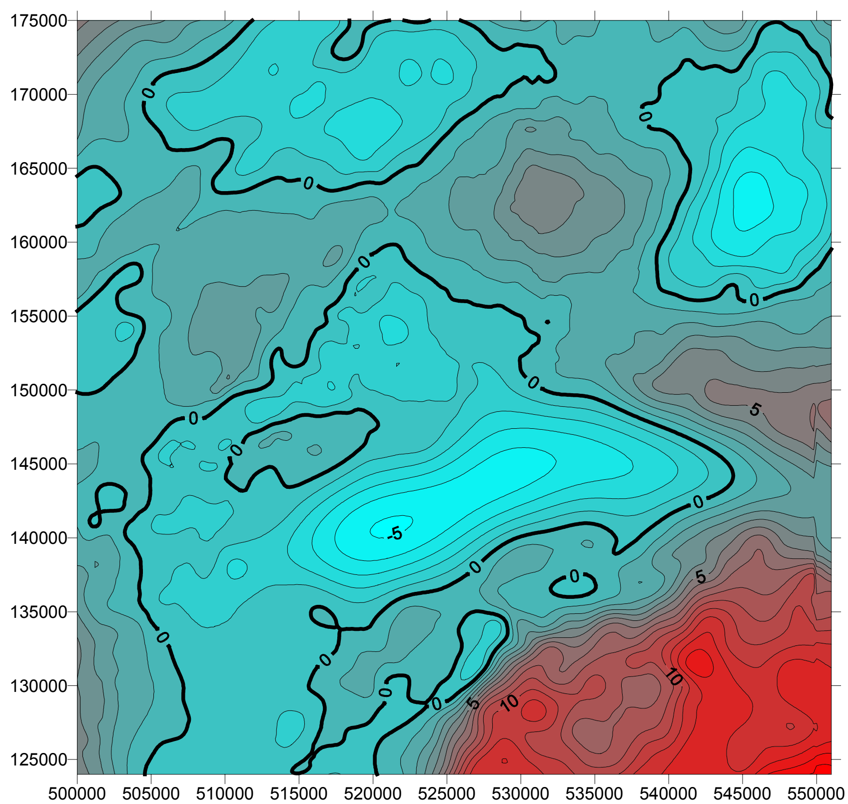
From these grids news residual fields were computed. For this two methods were used:
In the first, the fastest, the effects of the quaternary sediments were applied on the residuals fields computed from the raw Bouguer anomalies.
In the second method the coefficients of polynomials of degree 1 to 3 were computed by least squares, on the stripped Bouguer anomalies.
In order to get an idea of the validity of both methods a systematic comparison, zone by zone and degree by degree of the residuals fields, has been conducted.
This study; not presented here, has shown that the differences are extremely small and with long wavelengths on the whole Molasse basin. However, although the second methods demand more work it is, from the methodological point of view, preferable. (see annex of the printed 2007 report).

This is why the deconvolution in 2D an3D as well as the use of the analytic signal method were applied only on this kind of data.

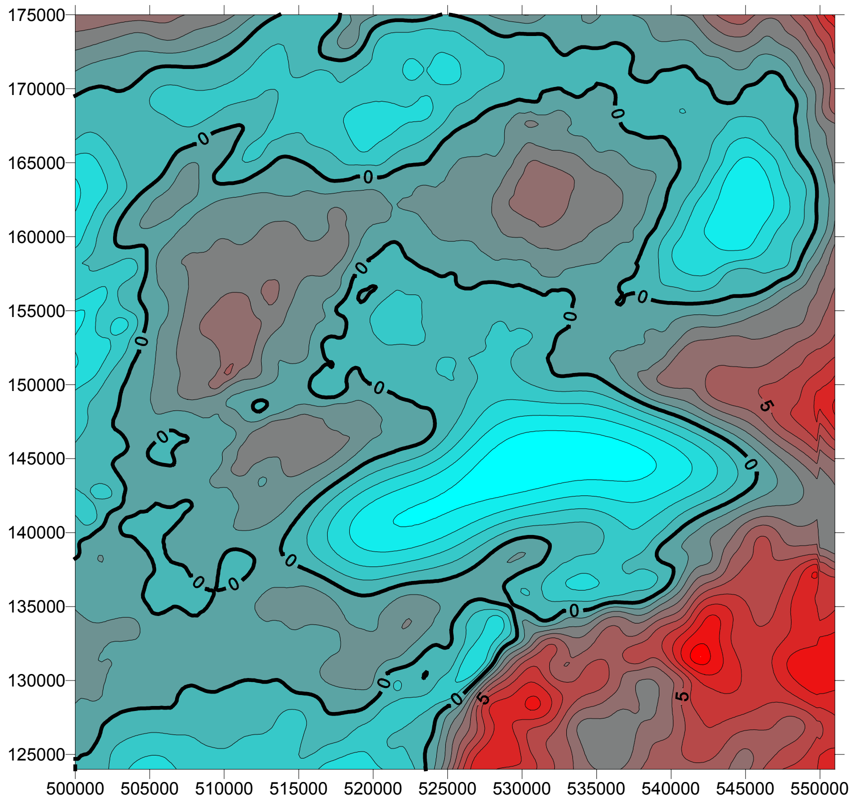
The following figures show the residual fields of degree 1t o 11 for the zones 1 to 1



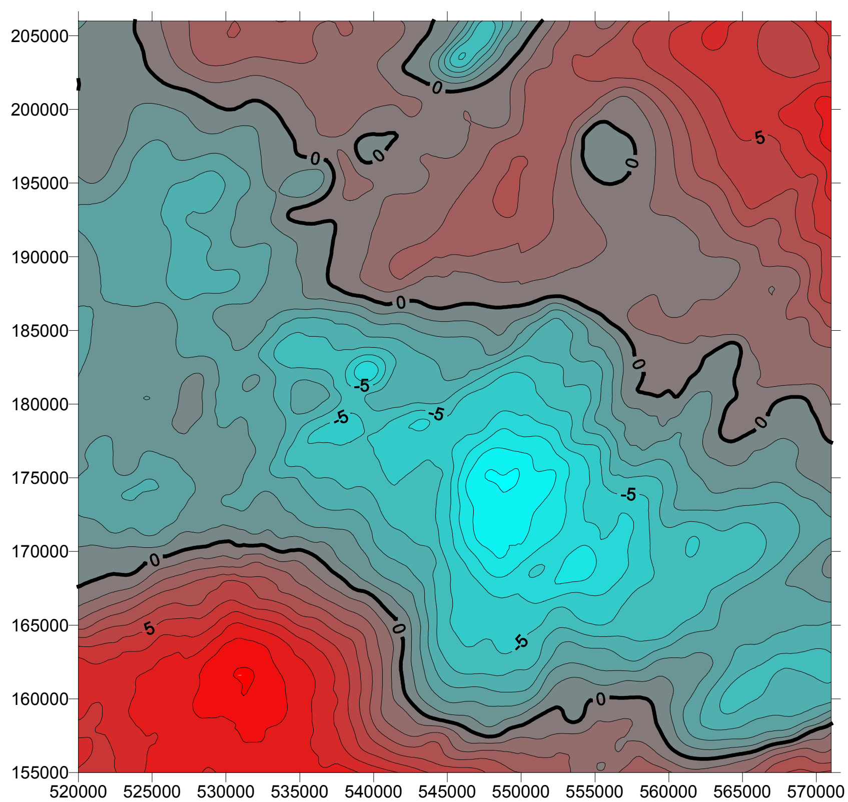
ZONE # 1 STRIPPEE
Residuelle 1er degré



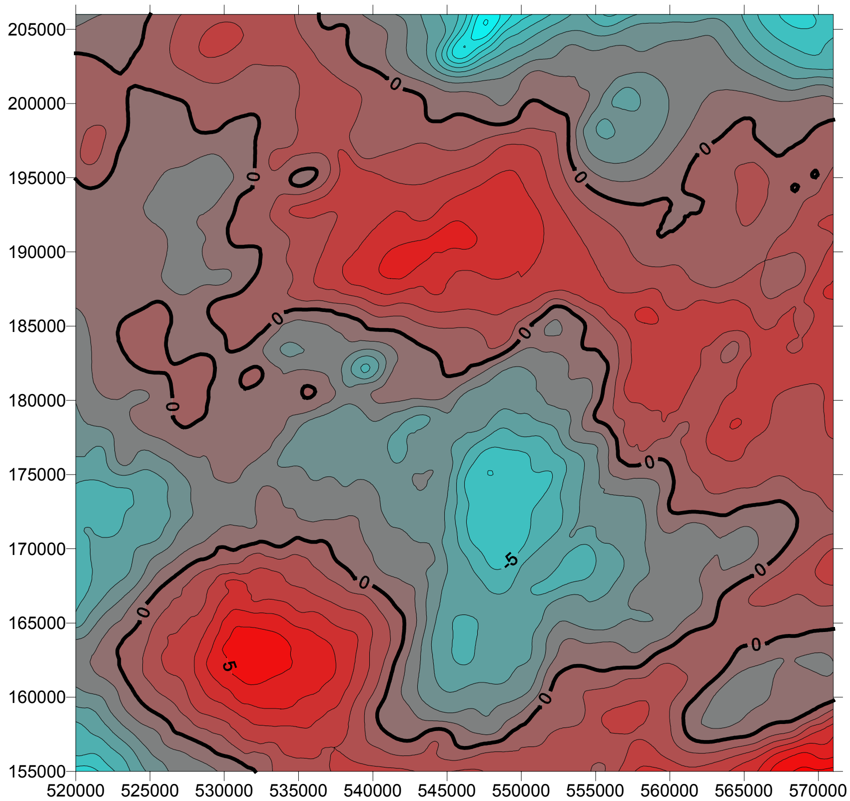
ZONE # 1 STRIPPEE
Résiduelle 2ième degré



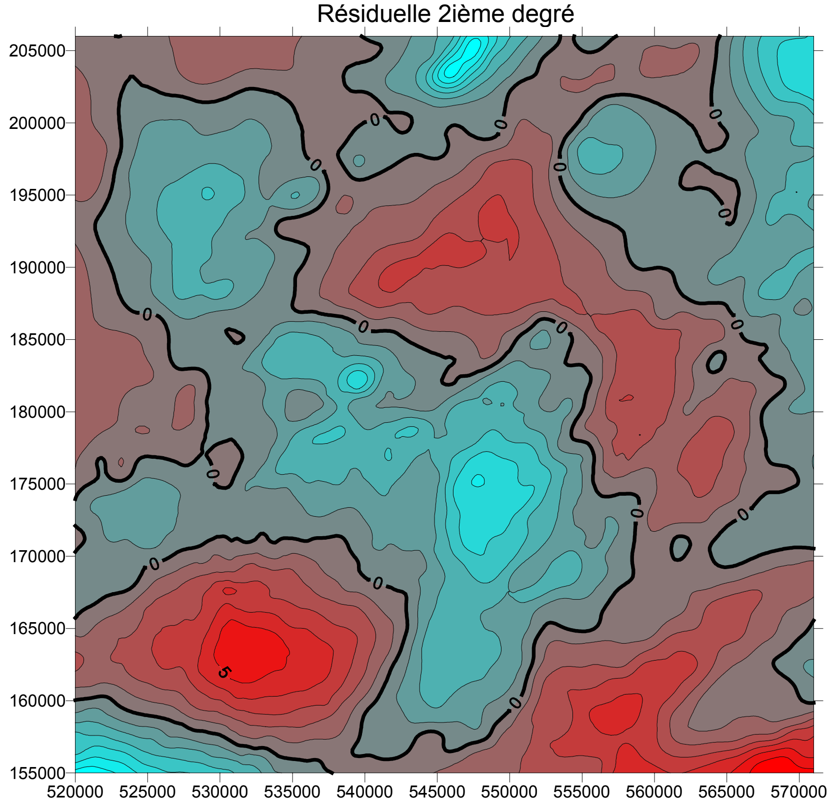
ZONE # 1 STRIPPEE
Résiduelle 3ième degré



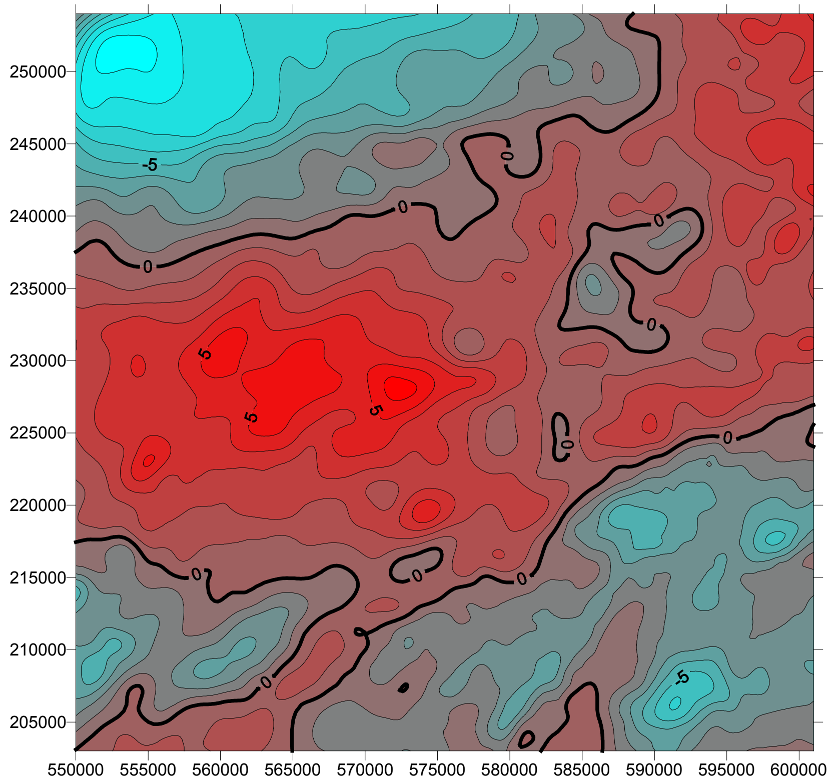
ZONE # 2 STRIPPEE
Résiduelle 1er degré



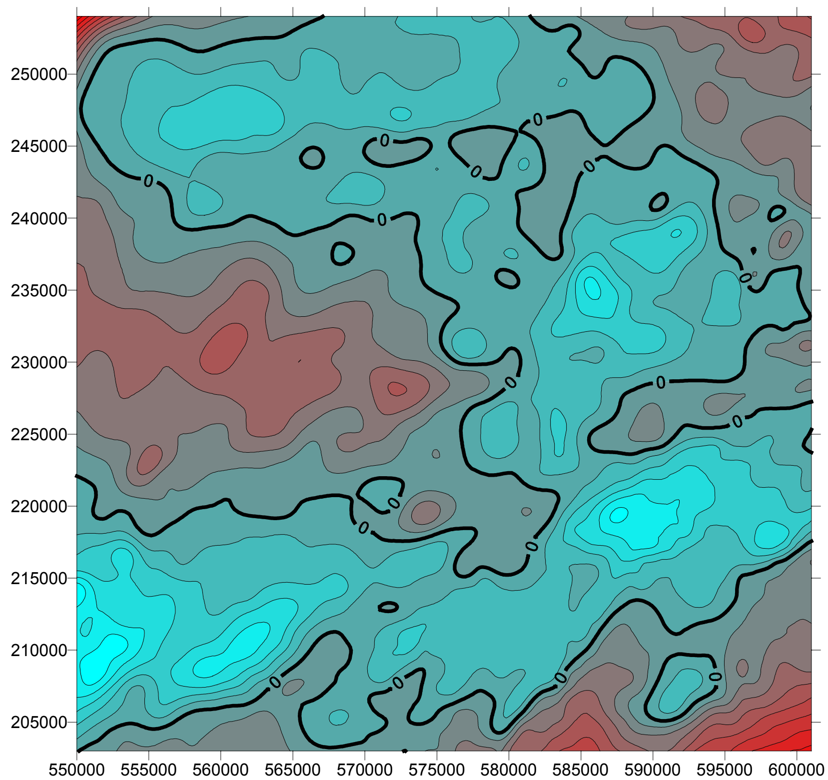
ZONE # 2 STRIPPEE
Résiduelle 2ième degré



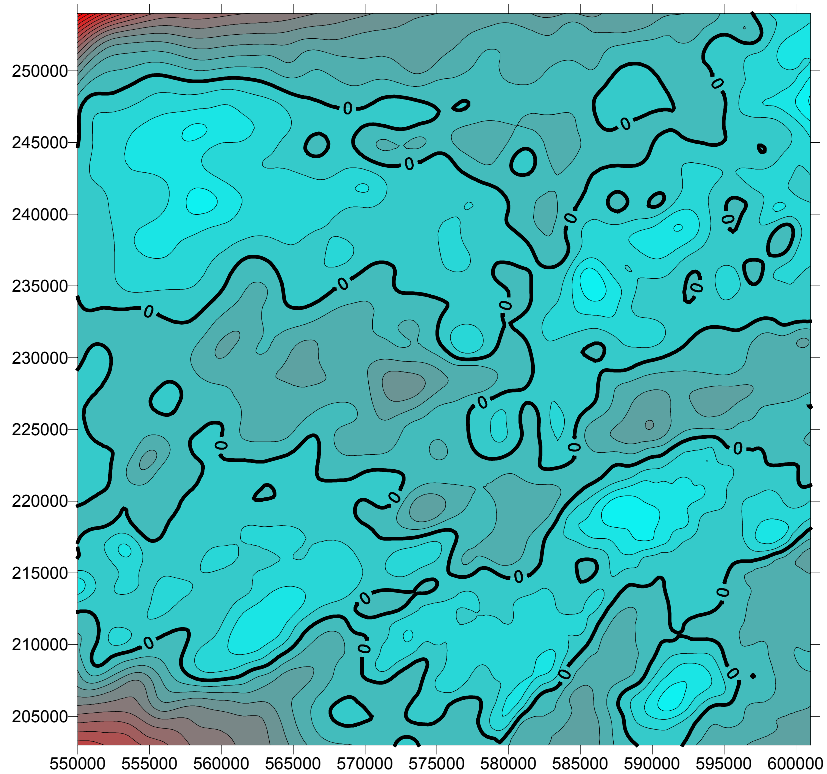
ZONE # 2 STRIPPEE
Résiduelle 3ième degré



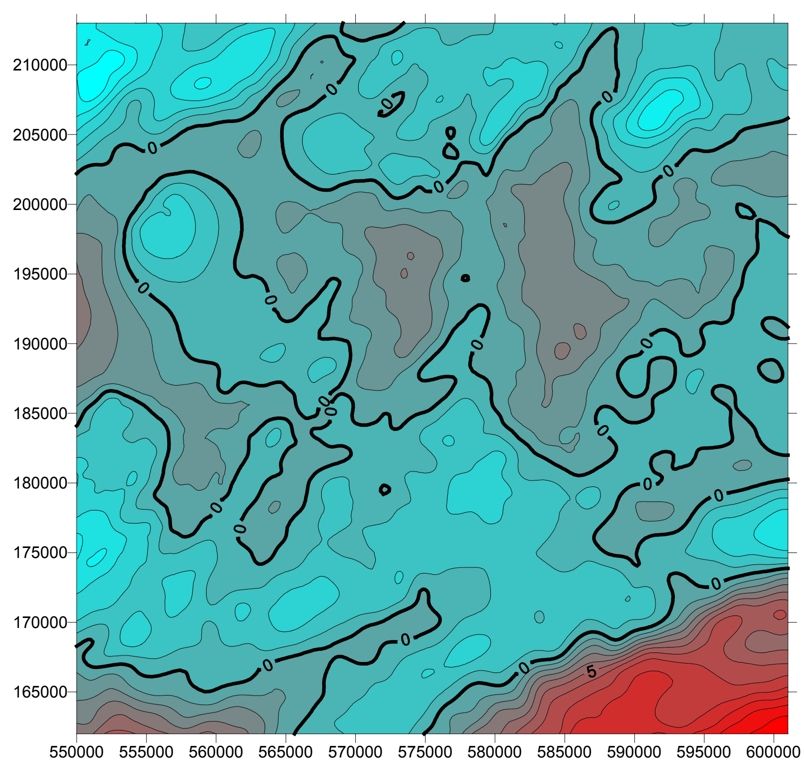
ZONE # 3 STRIPPEE
Résiduelle 1ier degré



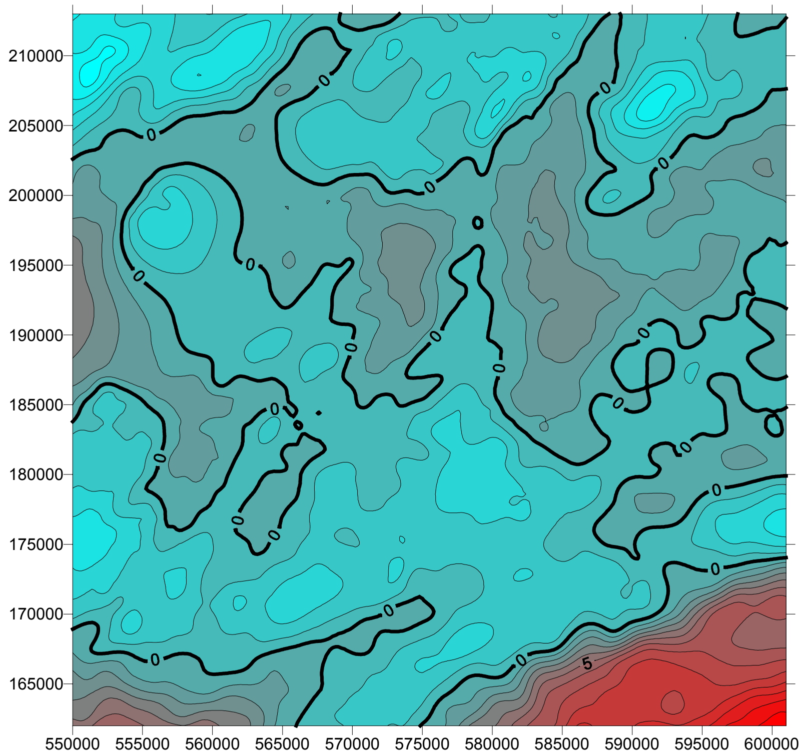
ZONE # 3 STRIPPEE
Résiduelle 2ième degré



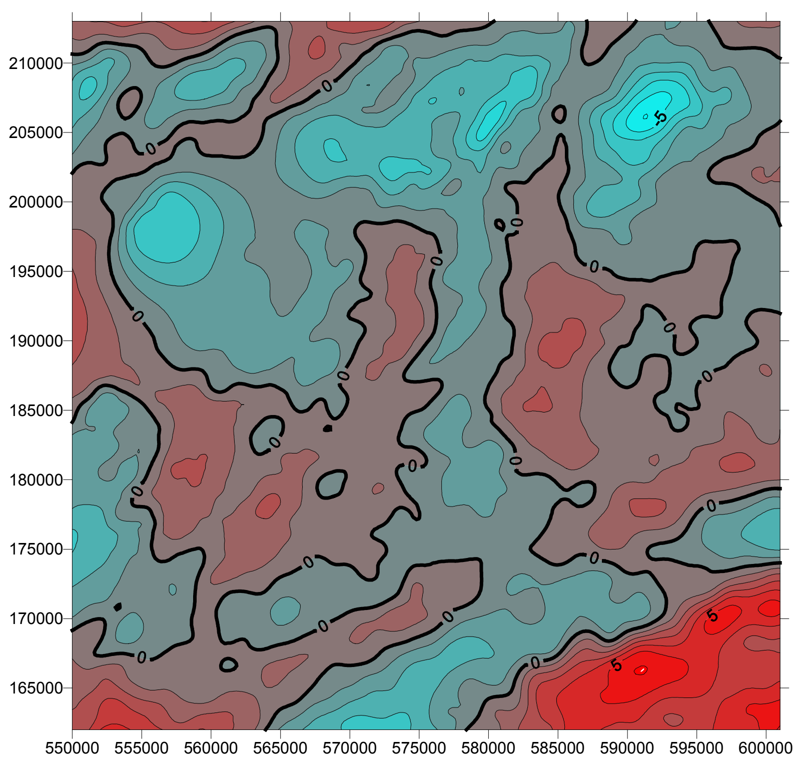
ZONE # 3 STRIPPEE
Résiduelle 3ième degré



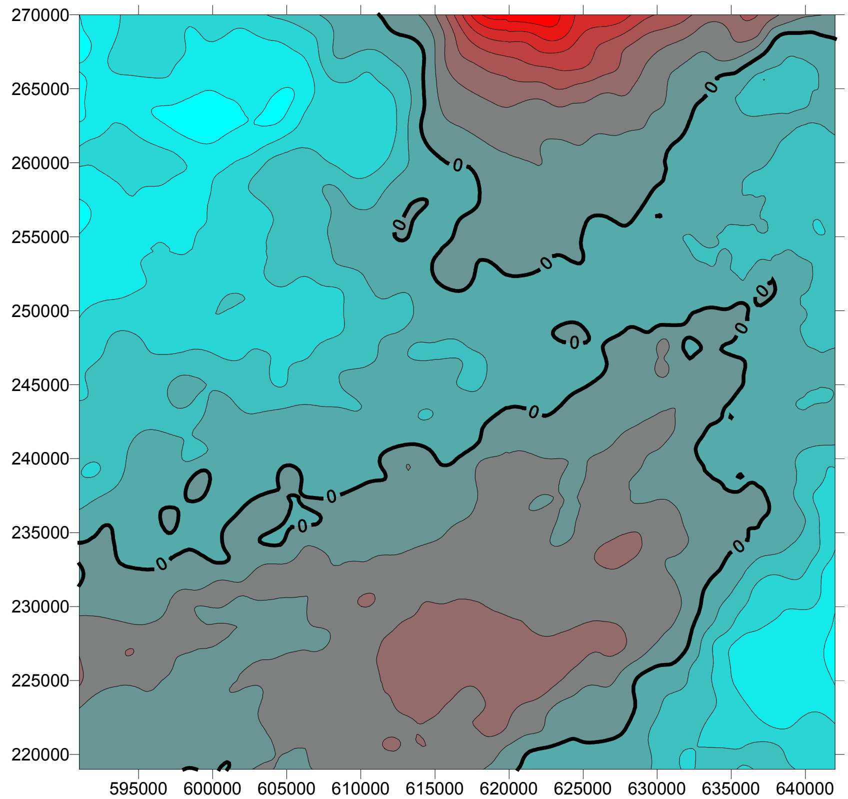
ZONE # 4 STRIPPEE
Résiduelle 1ier degré



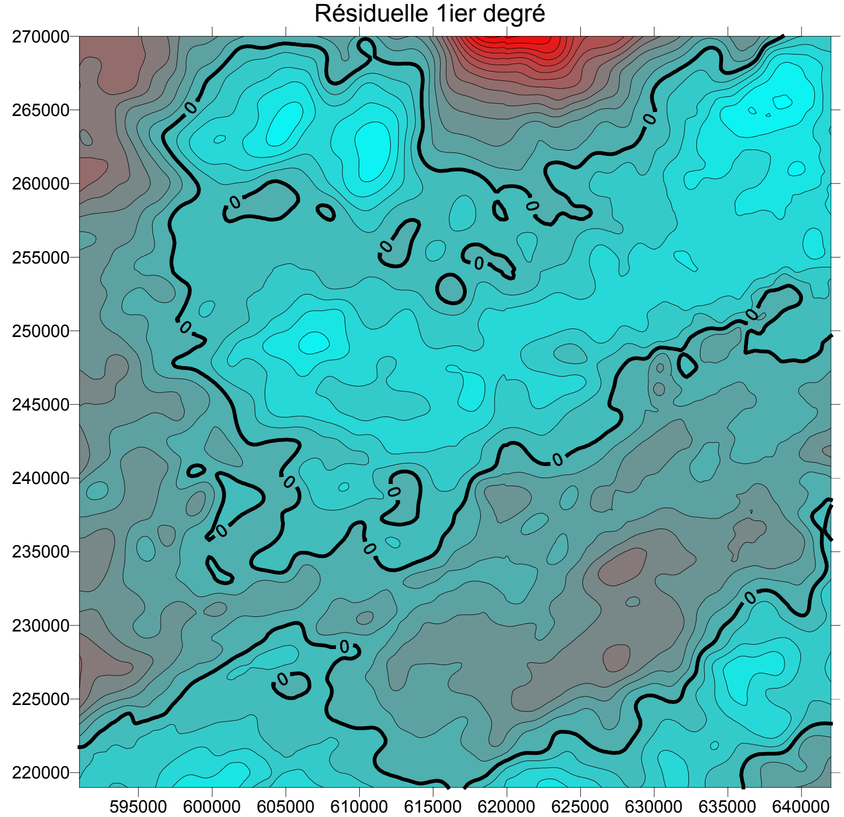
ZONE # 4 STRIPPEE
Résiduelle 2ième degré



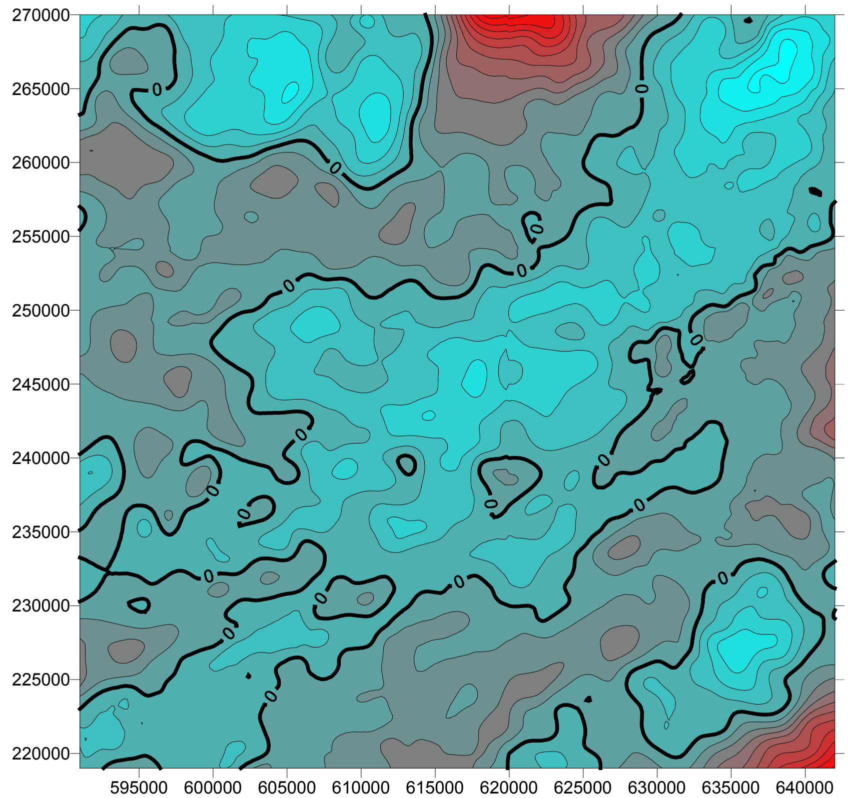
ZONE # 4 STRIPPEE
Résiduelle 3ième degré



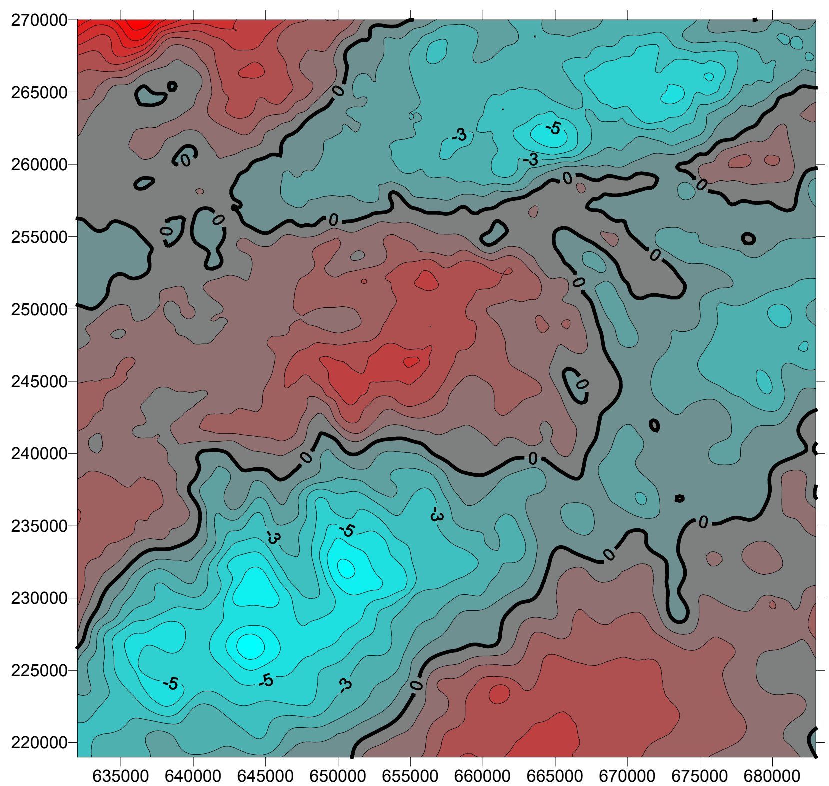
ZONE # 5 STRIPPEE
Résiduelle 1ier degré



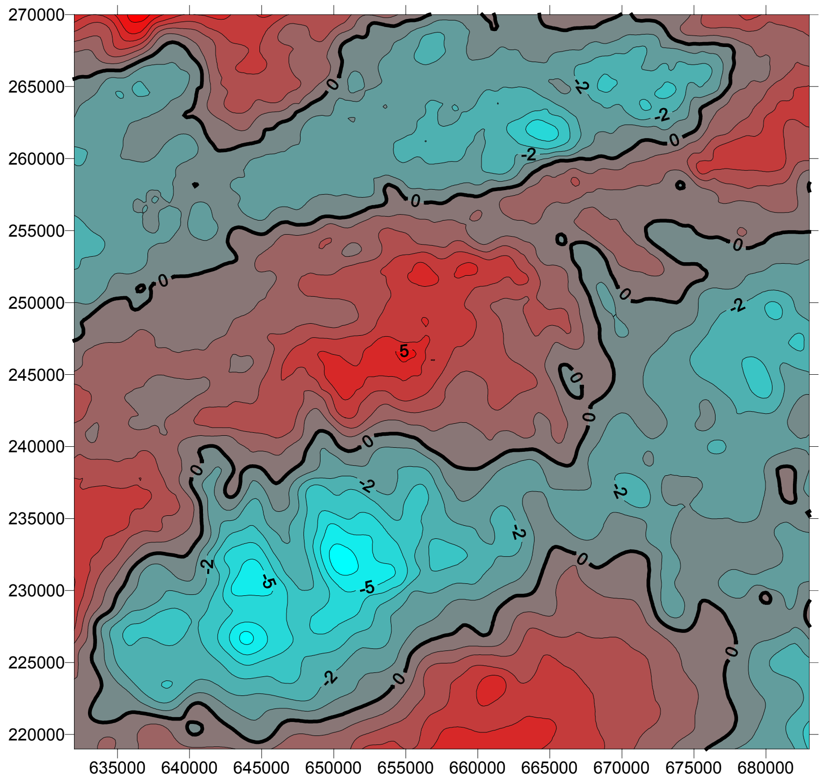
ZONE # 5 STRIPPEE
Résiduelle 2ième degré



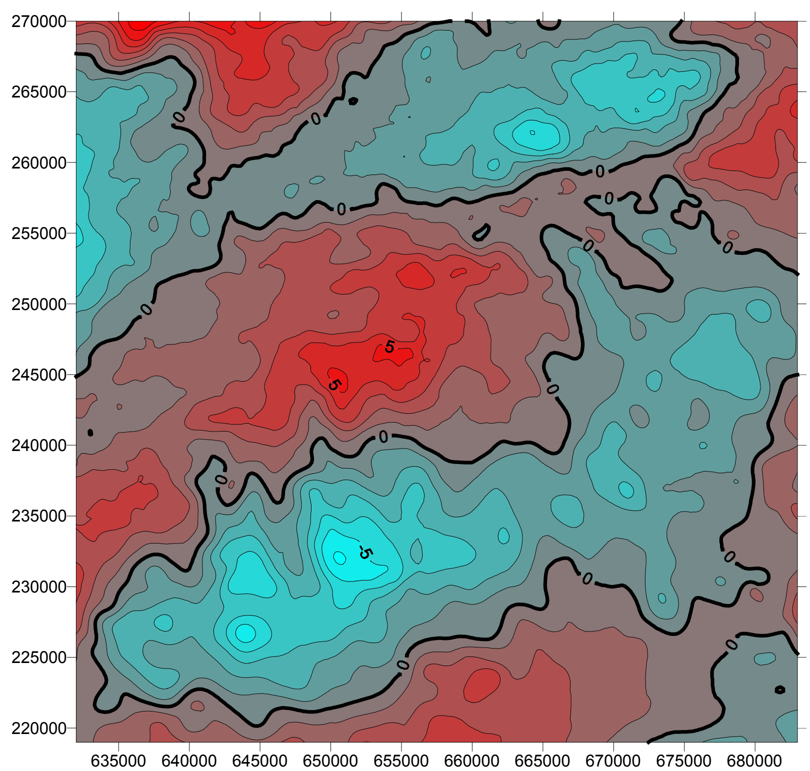
ZONE # 5 STRIPPEE
Résiduelle 3ième degré



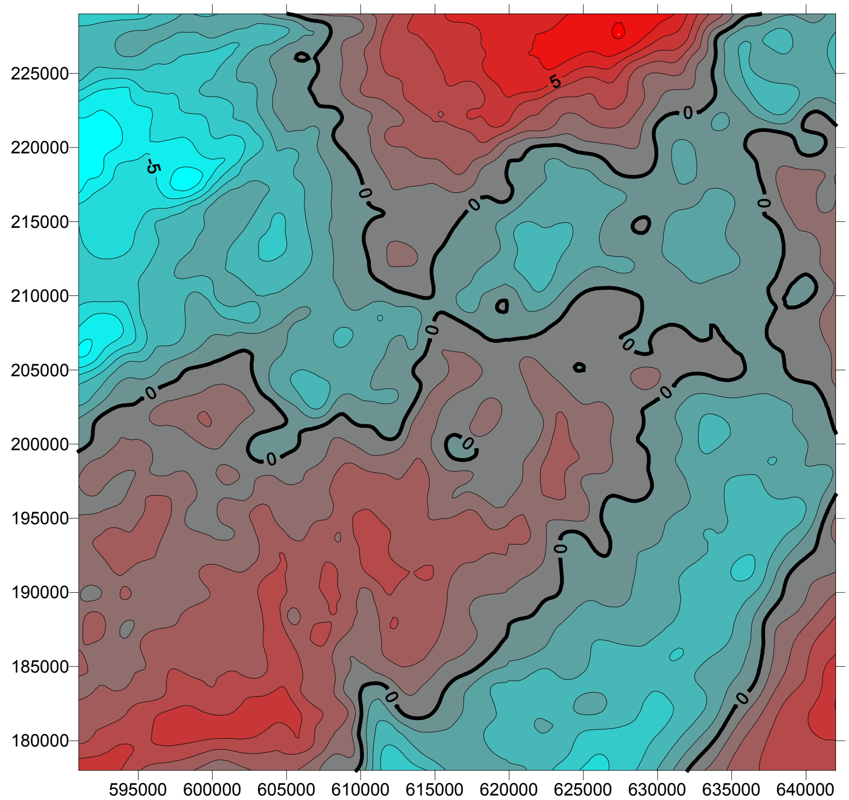
ZONE # 6 STRIPPEE
Résiduelle 1ier degré



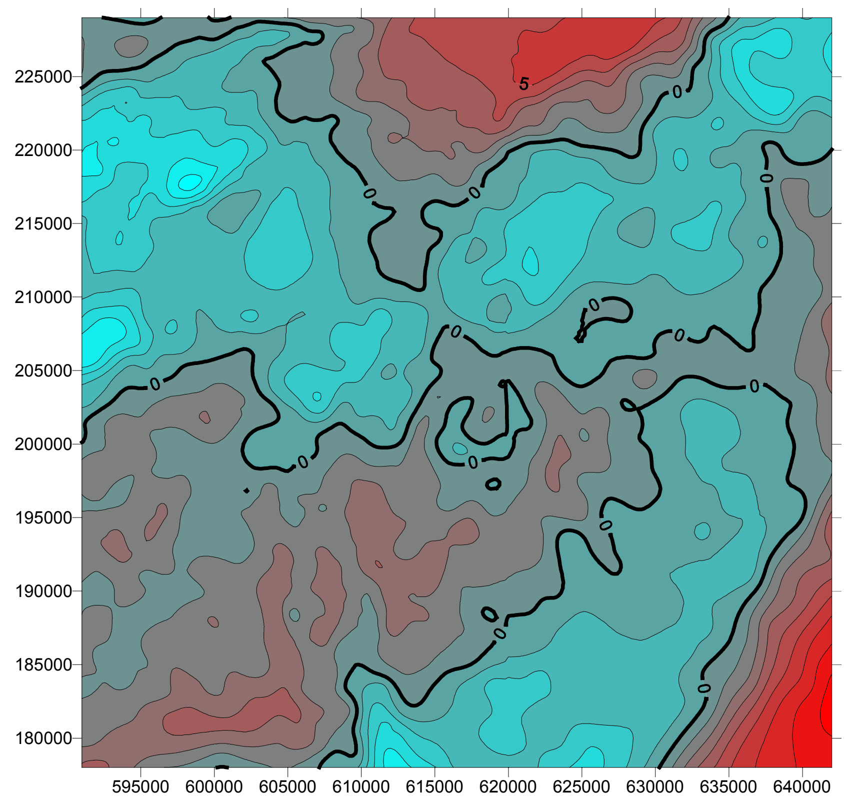
ZONE # 6 STRIPPEE
Résiduelle 2 ième degré



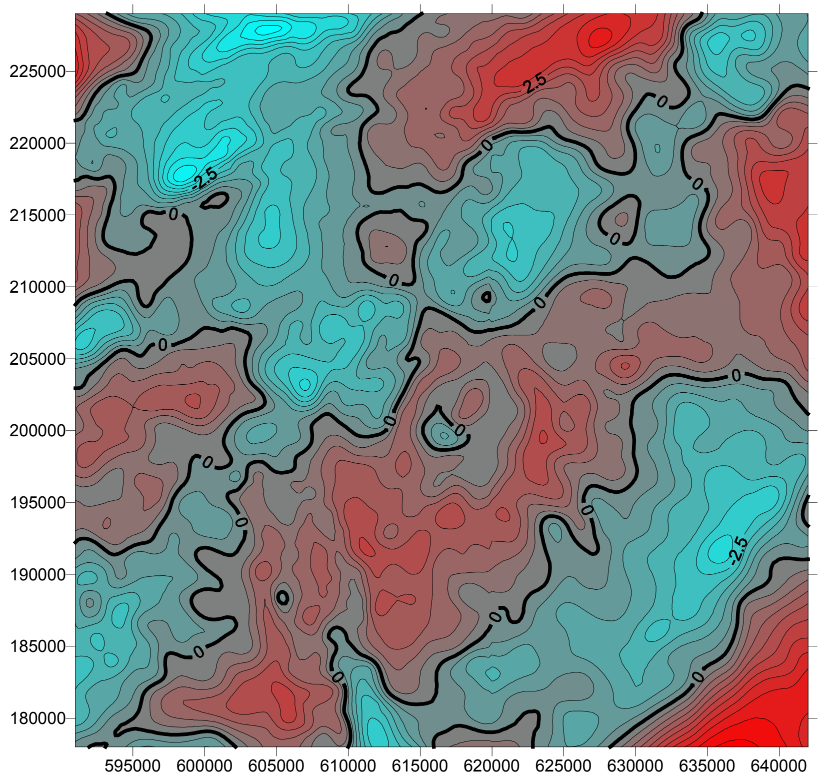
ZONE # 6 STRIPPEE
Résiduelle 3ième degré



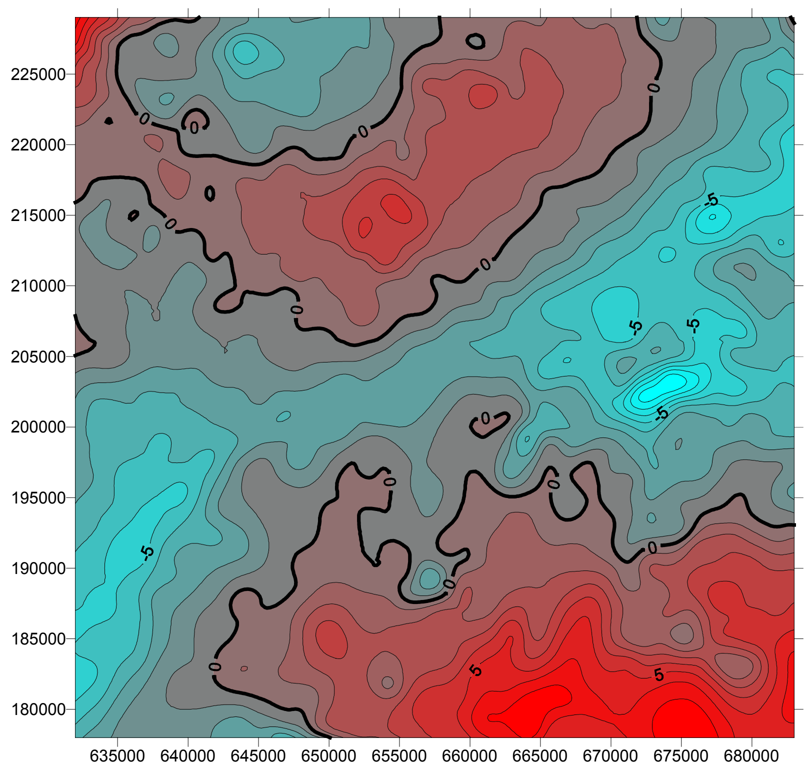
ZONE # 7 STRIPPEE
Résiduelle 1ier degré



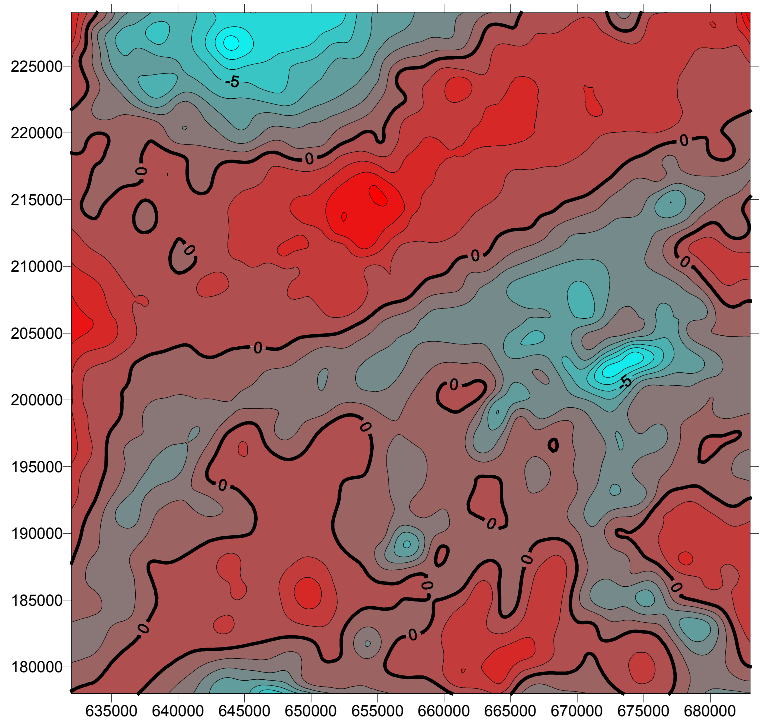
ZONE # 7 STRIPPEE
Résiduelle 2ième degré



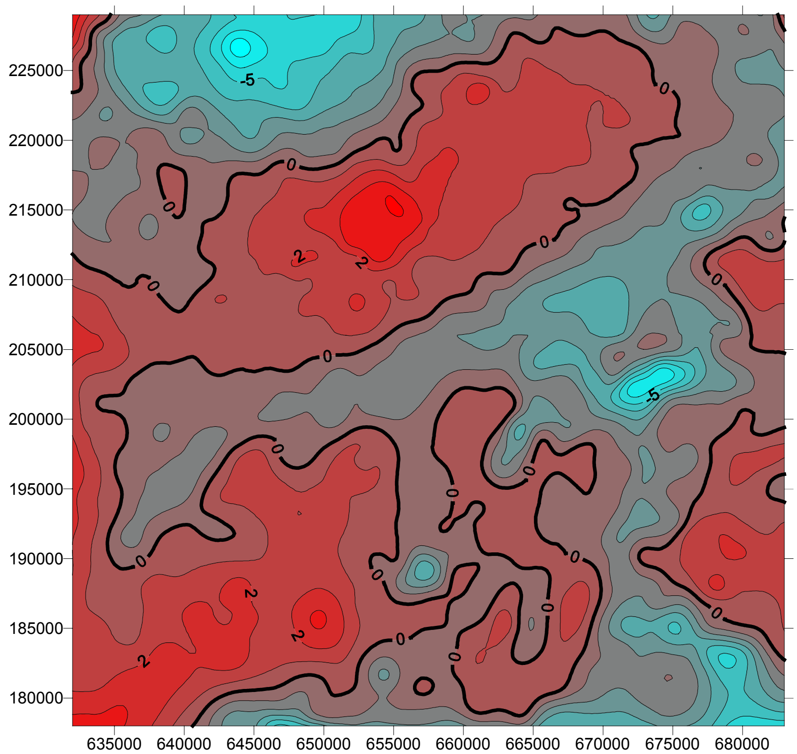
ZONE # 7 STRIPPEE
Résiduelle 3ième degré



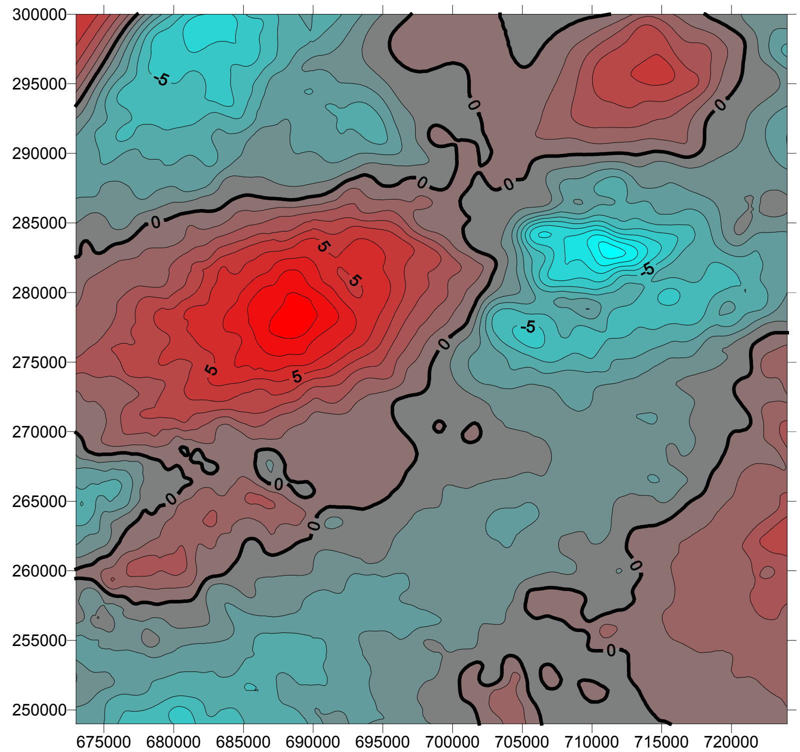
ZONE # 8 STRIPPEE
Résiduelle 1ier degré



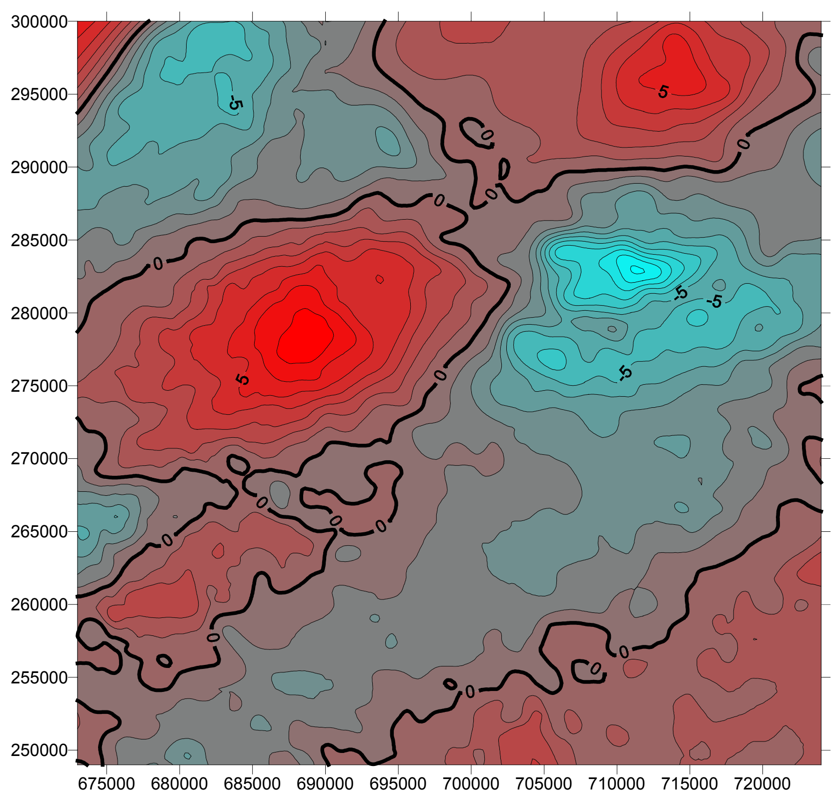
ZONE # 8 STRIPPEE
Résiduelle 2ième degré



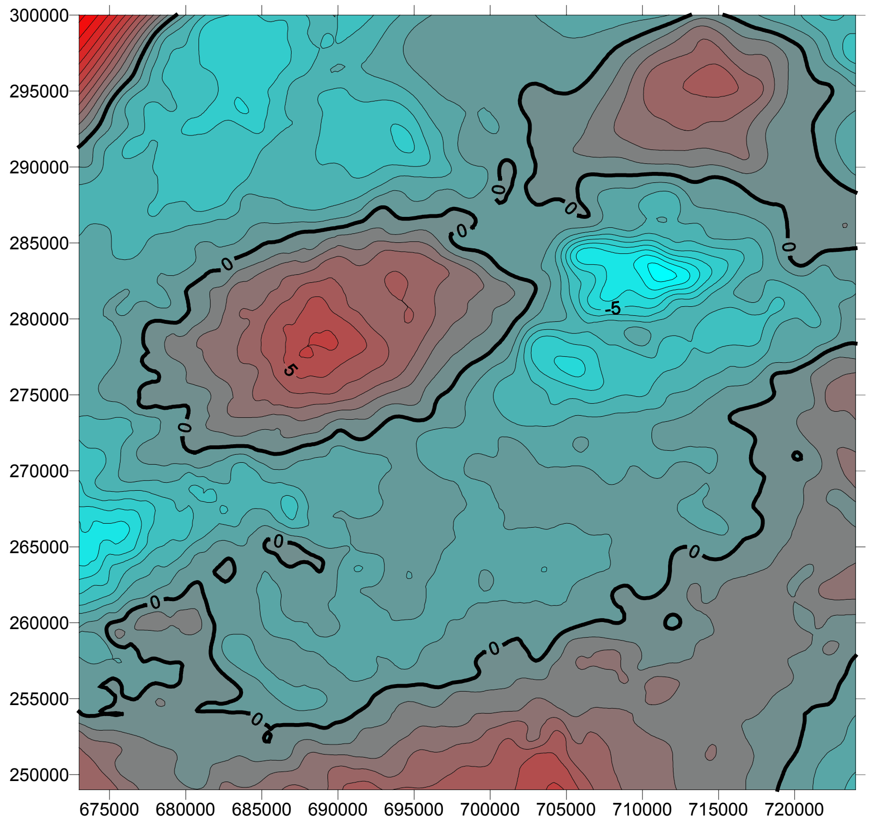
ZONE # 8 STRIPPEE
Résiduelle 3ième degré



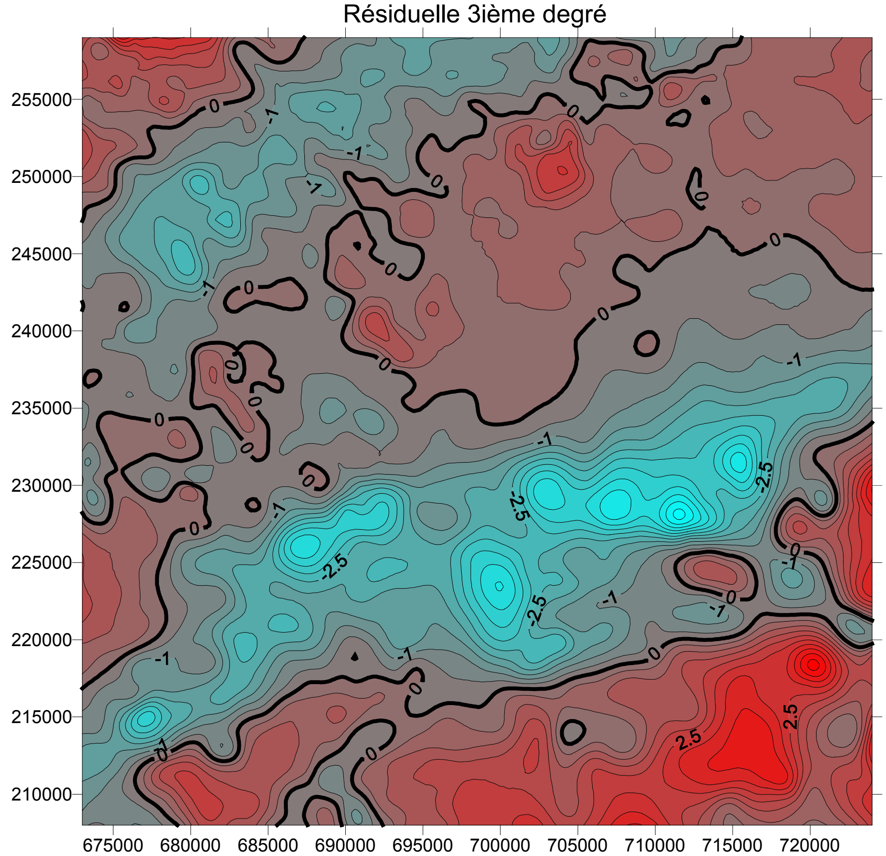
ZONE # 9 STRIPPEE
Résiduelle 1ier degré



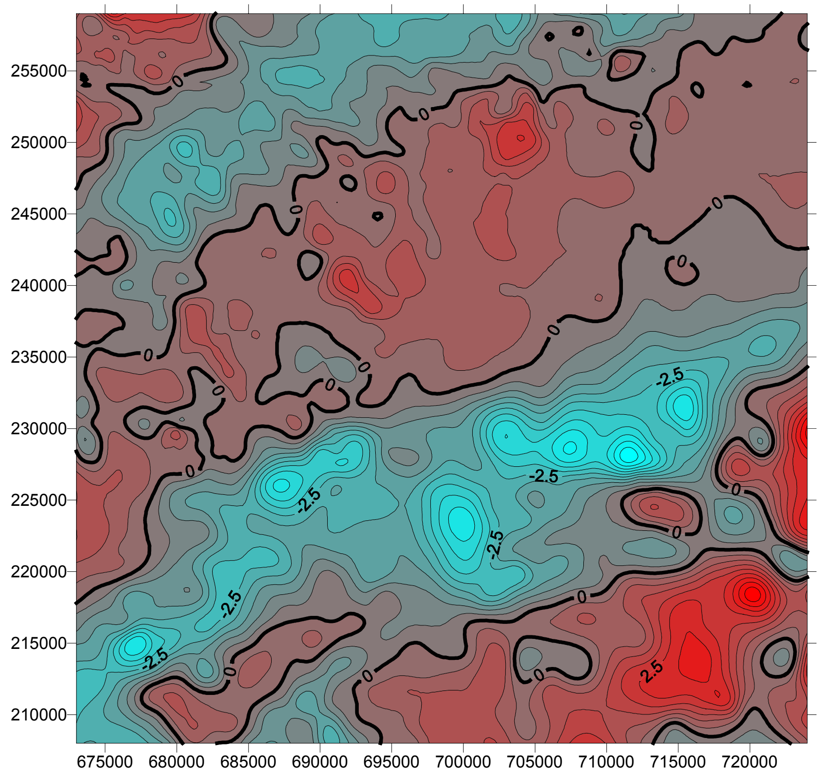
ZONE # 9 STRIPPEE
Résiduelle 2ième degré



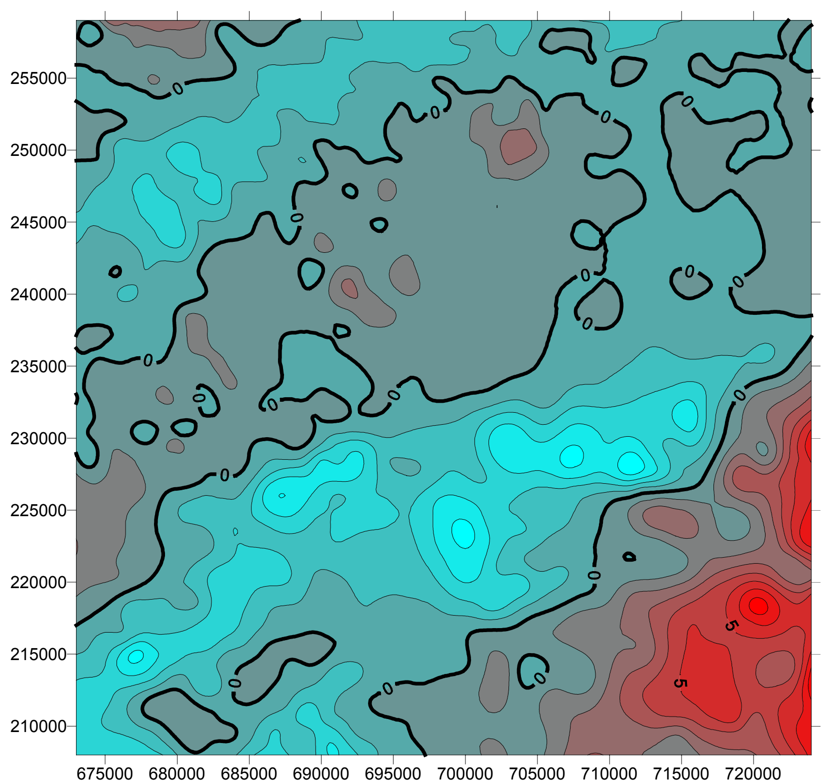
ZONE # 9 STRIPPEE
Résiduelle 3ième degré



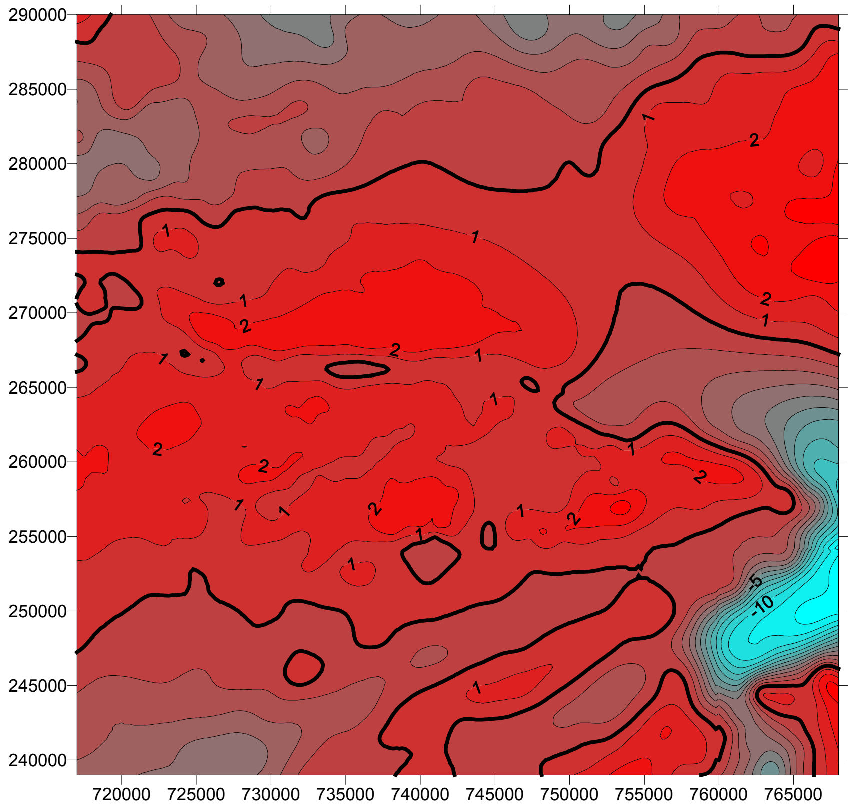
ZONE # 10 STRIPPEE
Résiduelle 1ier degré



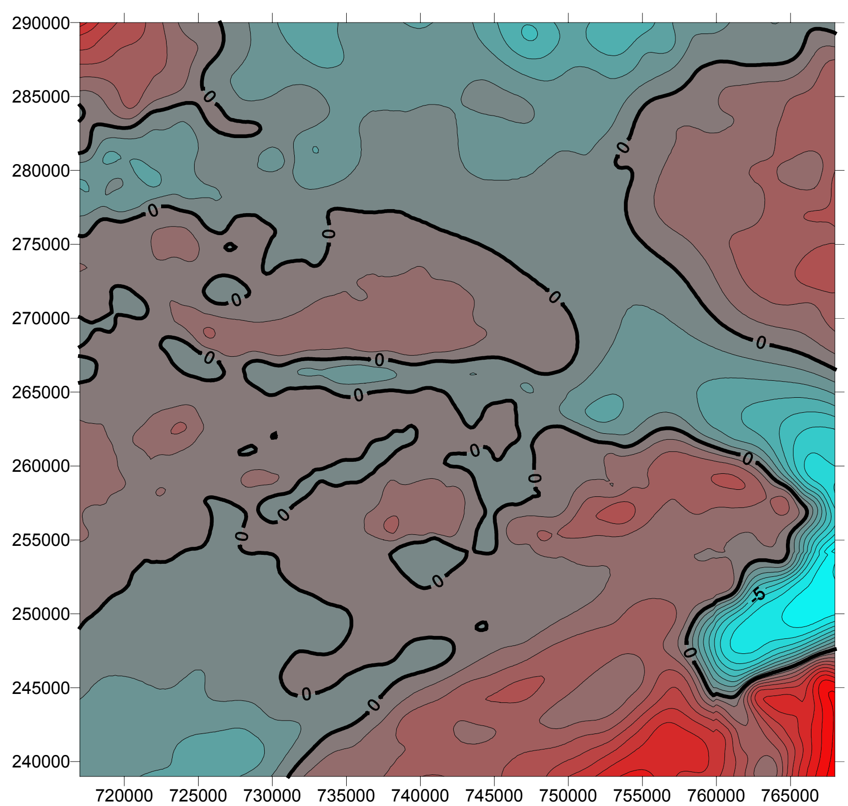
ZONE # 10 STRIPPEE
Résiduelle 2ième degré



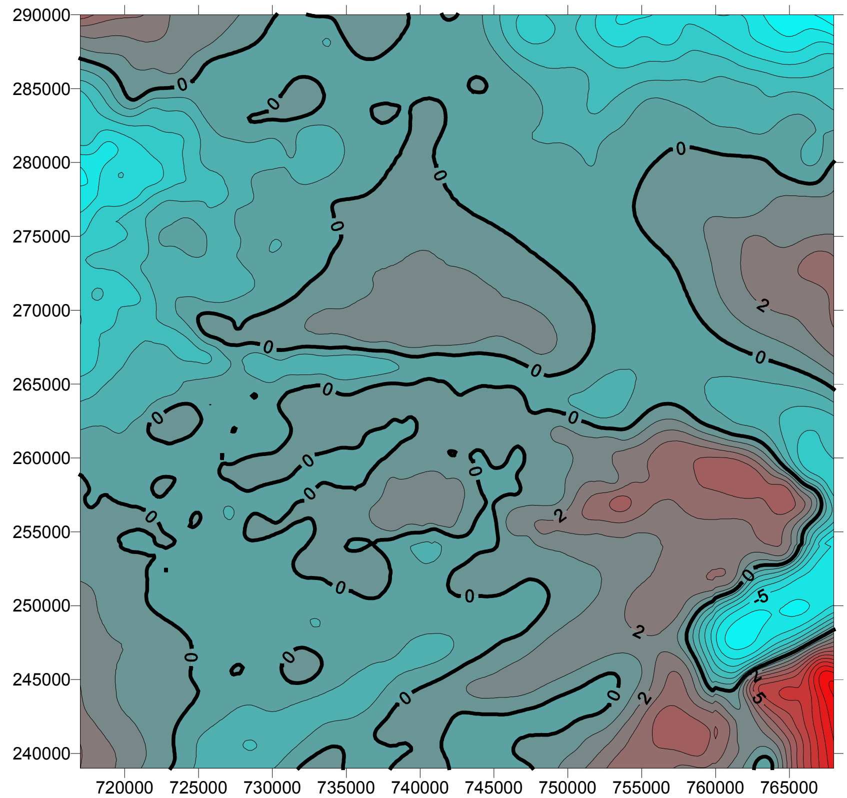
ZONE # 10 STRIPPEE
Résiduelle 3ième degré



ZONE # 11 STRIPPEE
Résiduelle 1ier degré



ZONE # 11 STRIPPEE
Résiduelle 2ième degré



ZONE # 11 STRIPPEE
Résiduelle 3ième degré

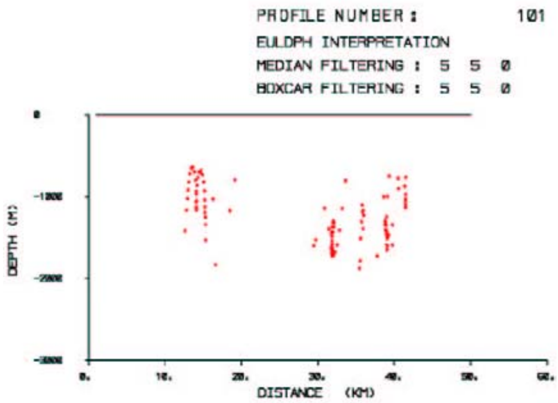
For the 2D and 3D interpretations the following residual field were chosen

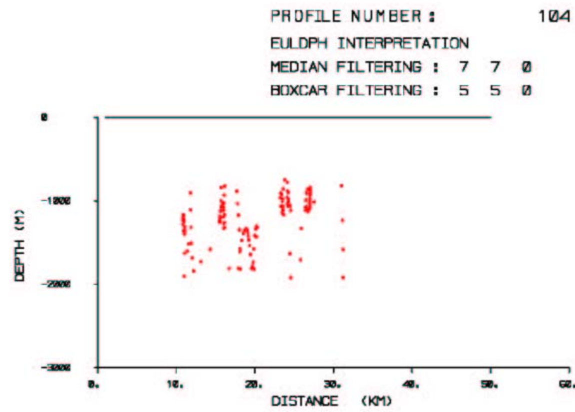
Zones :	I	II	III	IV	V	VI	VII	VIII	IX	X	XI
Degrees :	3	2	1	2	1	2	2	1	3	3	2

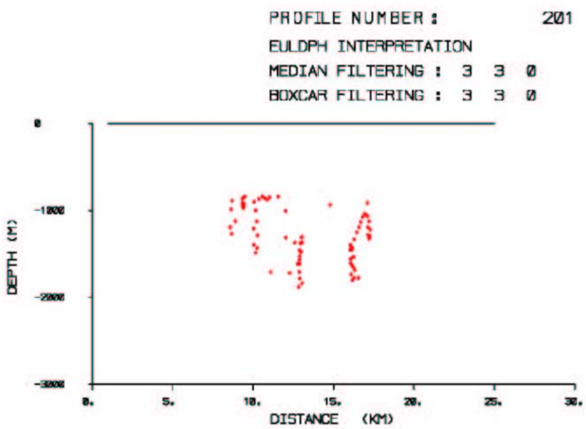
This choice is based on a visual analysis taking into account the shapes of the anomalies and the minimization of the positive and negative anomalies

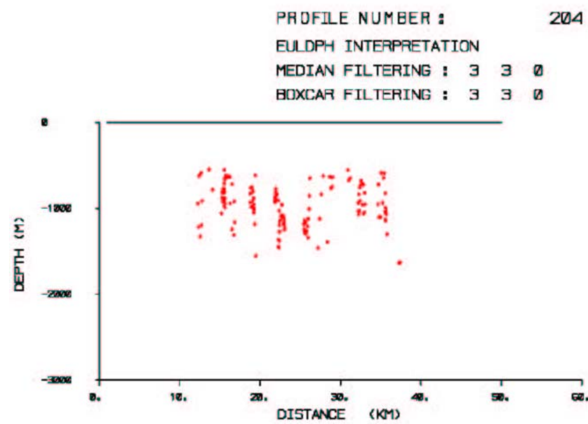
Results of the 2D Euler deconvolution of the stripped zones 1 to 11.

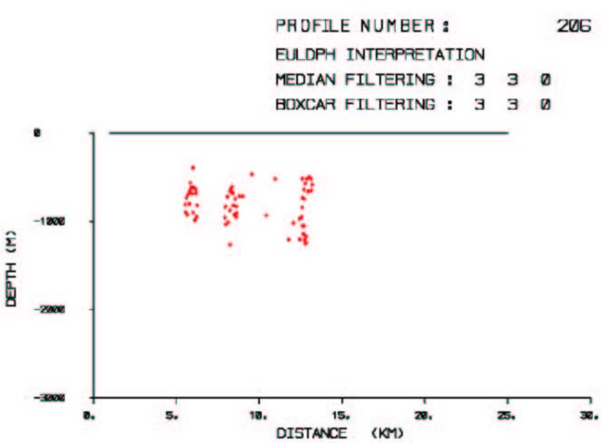
In order not to overload this report only some examples of the interpretation is presented here. The whole results are in the annex I of the printed version of this report

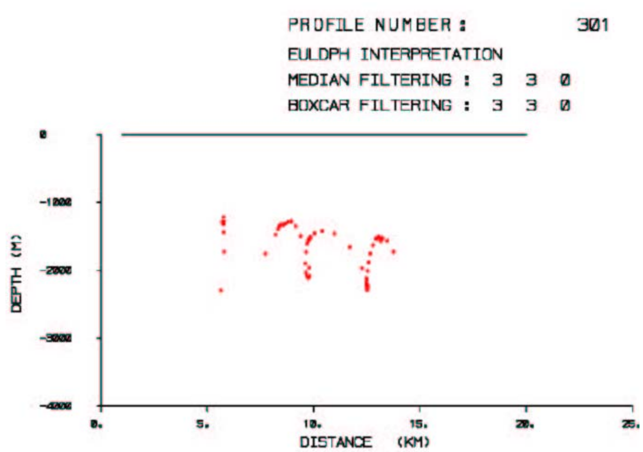

PROFILE NUMBER : 101
EULDPH INTERPRETATION
MEDIAN FILTERING : 5 5 0
BOXCAR FILTERING : 5 5 0
DEPTH (M)
0
-1000
-2000
-3000
0. 10. 20. 30. 40. 50. 60.
DISTANCE (KM)

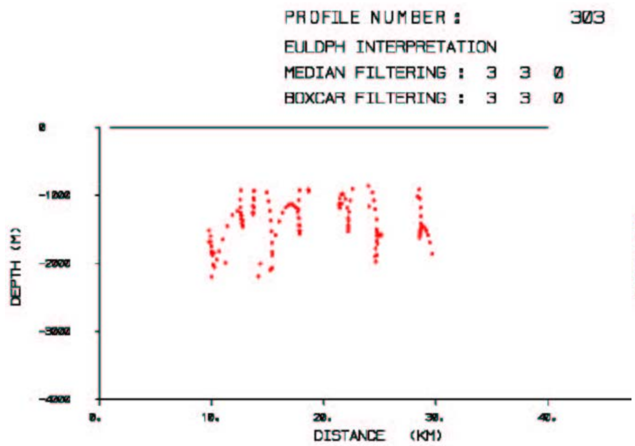

PROFILE NUMBER : 104
EULDPH INTERPRETATION
MEDIAN FILTERING : 7 7 0
BOXCAR FILTERING : 5 5 0
DEPTH (M)
0
-1000
-2000
-3000
0. 10. 20. 30. 40. 50. 60.
DISTANCE (KM)

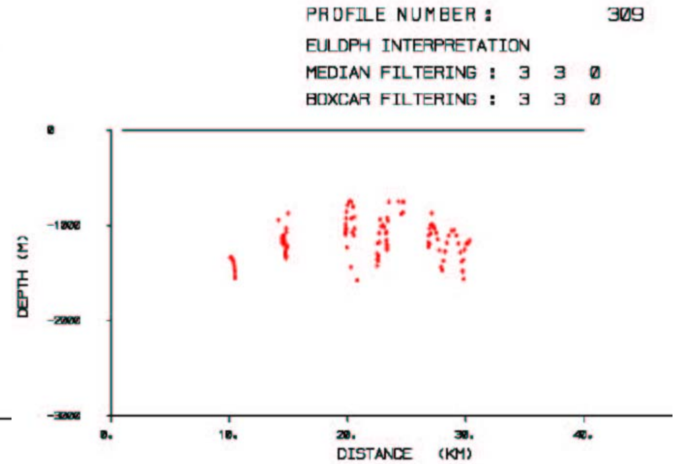

PROFILE NUMBER : 201
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
0
-1000
-2000
-3000
0. 5. 10. 15. 20. 25. 30.
DISTANCE (KM)

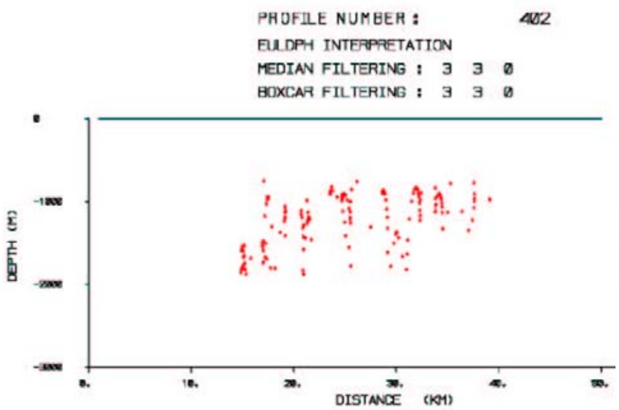

PROFILE NUMBER : 204
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
0
-1000
-2000
-3000
0. 10. 20. 30. 40. 50. 60.
DISTANCE (KM)

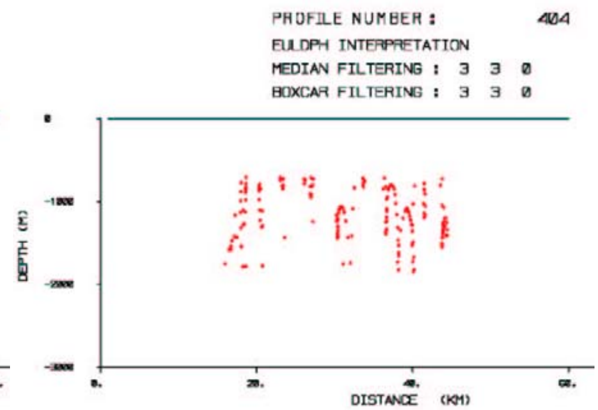

PROFILE NUMBER : 206
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
0
-1000
-2000
-3000
0. 5. 10. 15. 20. 25. 30.
DISTANCE (KM)

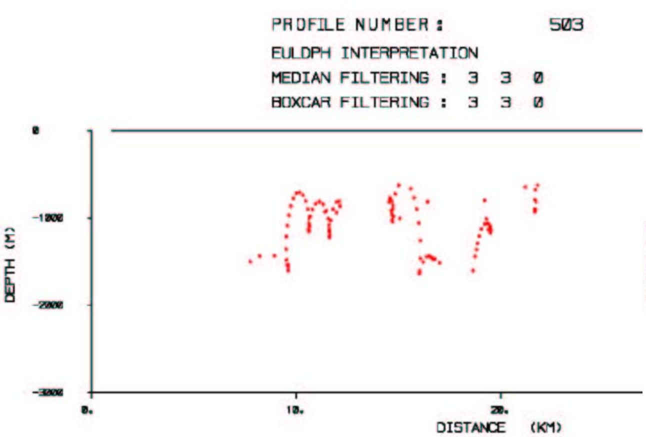

PROFILE NUMBER : 301
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
0
-1000
-2000
-3000
-4000
0. 5. 10. 15. 20. 25.
DISTANCE (KM)

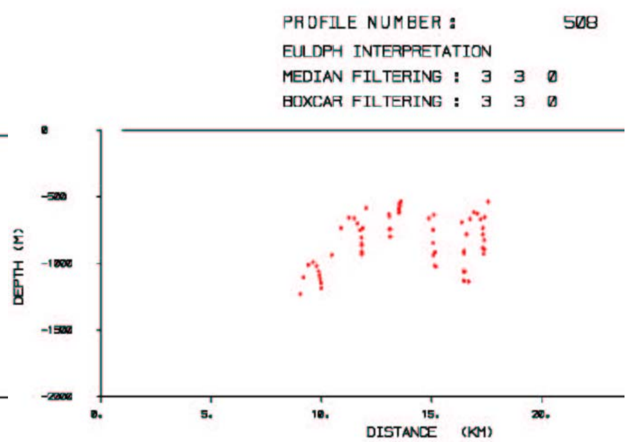

PROFILE NUMBER : 303
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)

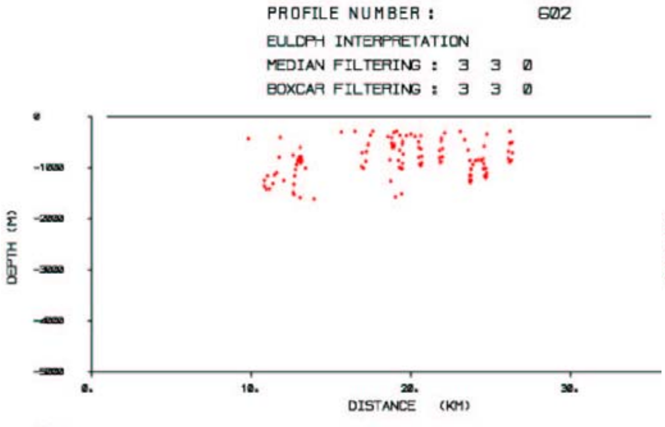

PROFILE NUMBER : 309
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)

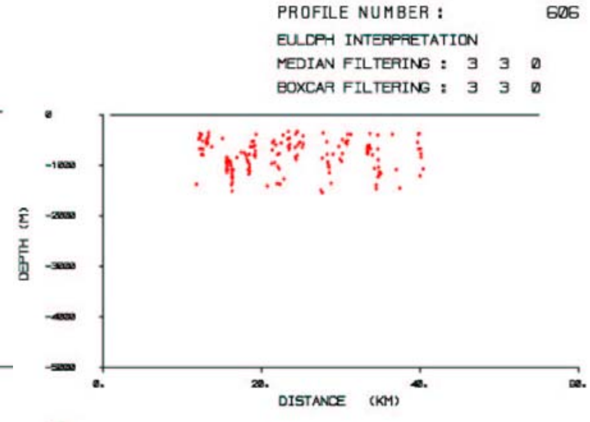

PROFILE NUMBER : 402
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)

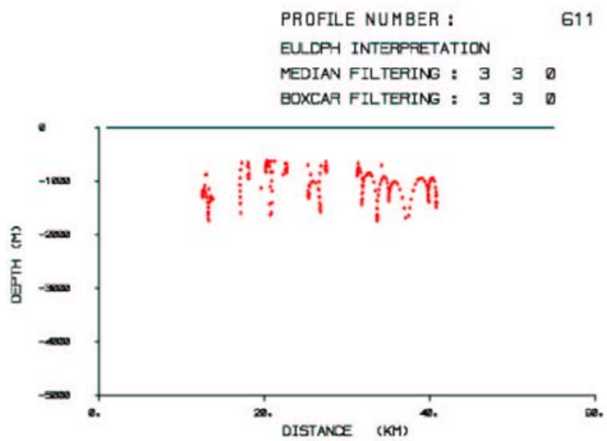

PROFILE NUMBER : 404
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)

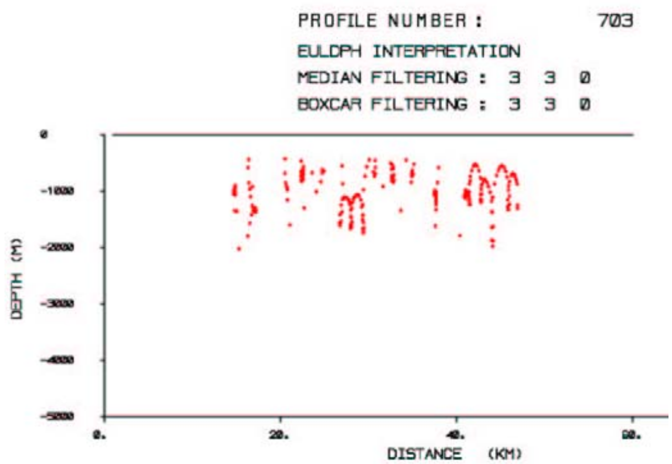

PROFILE NUMBER : 503
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)

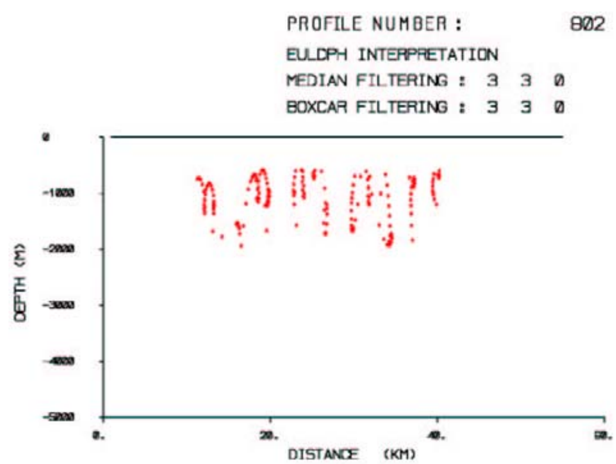

PROFILE NUMBER : 508
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)


PROFILE NUMBER : 602
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)


PROFILE NUMBER : 606
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)


PROFILE NUMBER : 611
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)


PROFILE NUMBER : 703
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)


PROFILE NUMBER : 802
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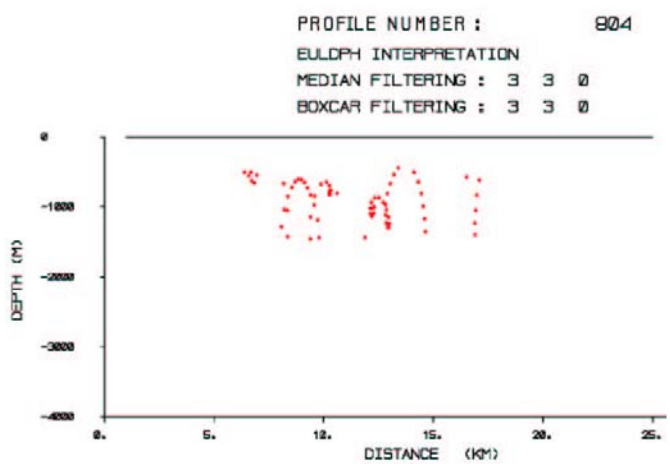
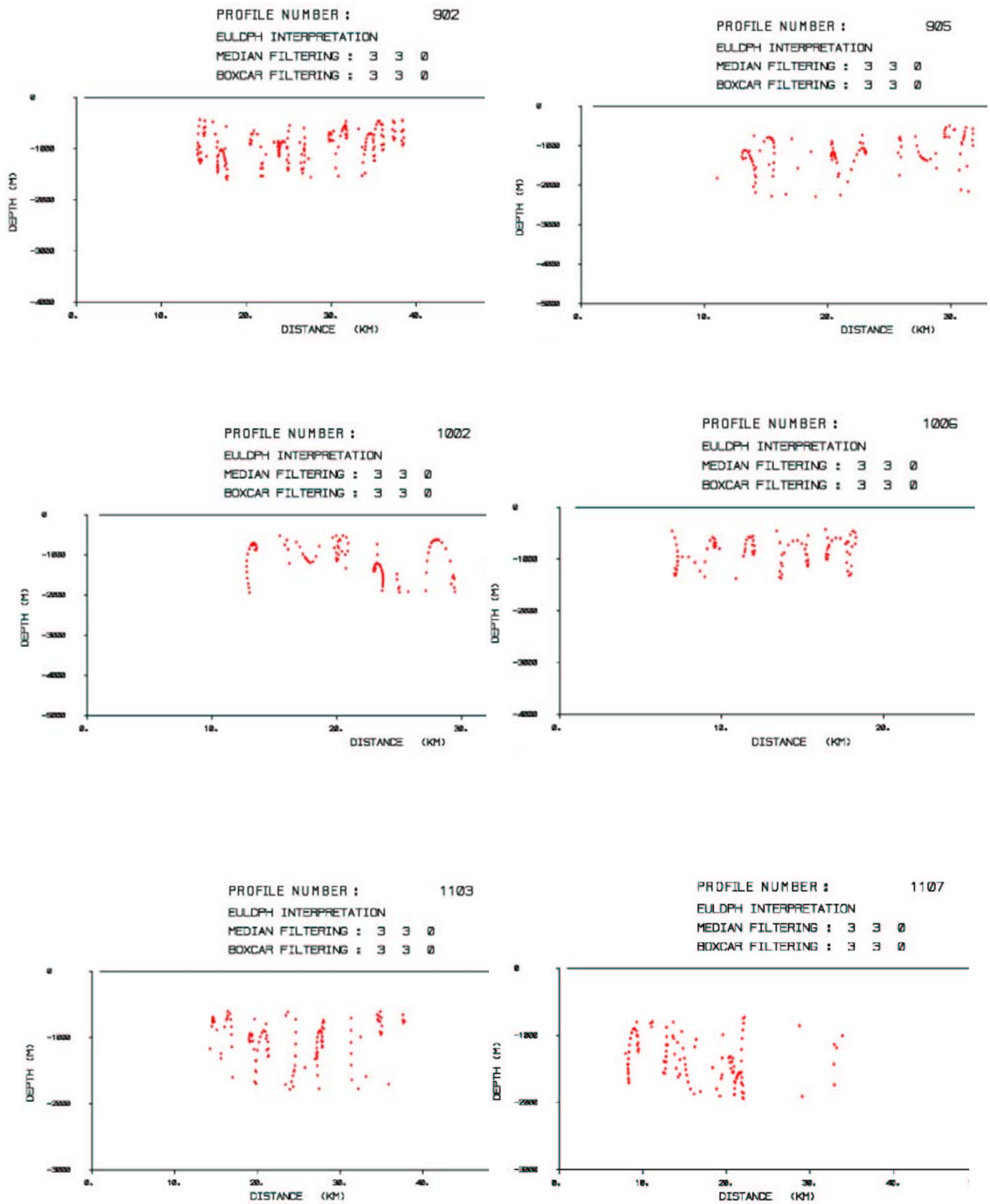
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)

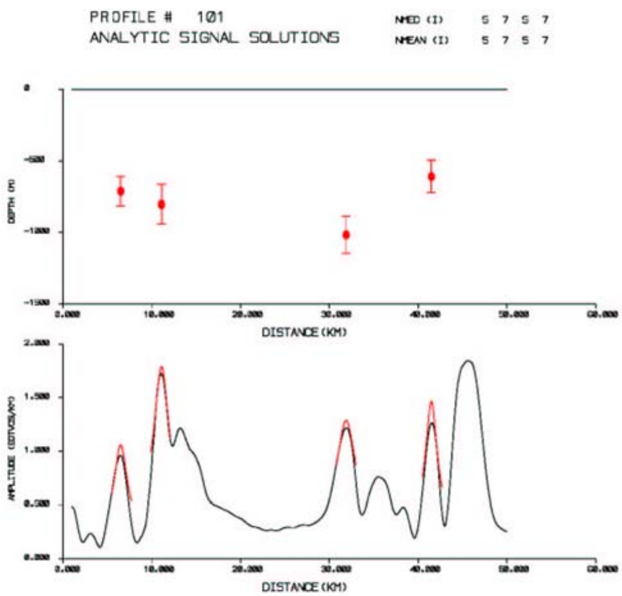

PROFILE NUMBER : 804
EULDPH INTERPRETATION
MEDIAN FILTERING : 3 3 0
BOXCAR FILTERING : 3 3 0
DEPTH (M)
DISTANCE (KM)

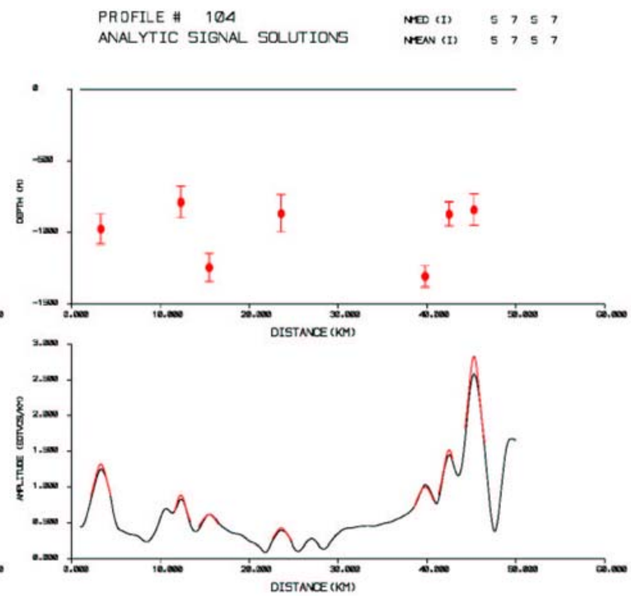


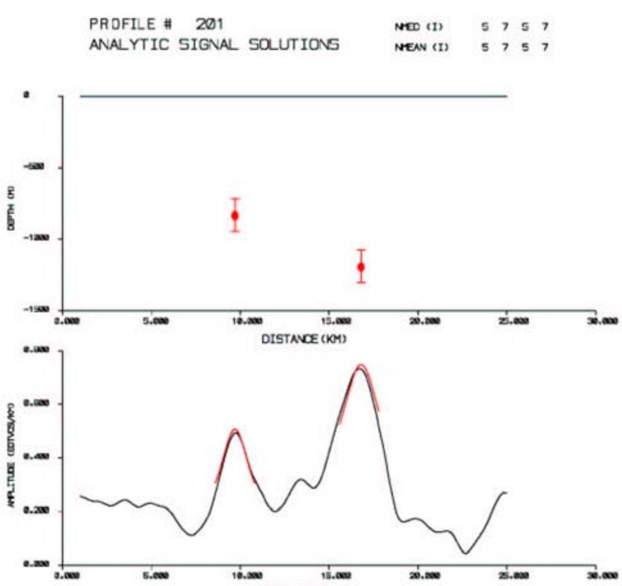
Figures 19a-19v: Examples of solutions of the 2D Euler deconvolution on profiles of stripped zones 1 to 11.

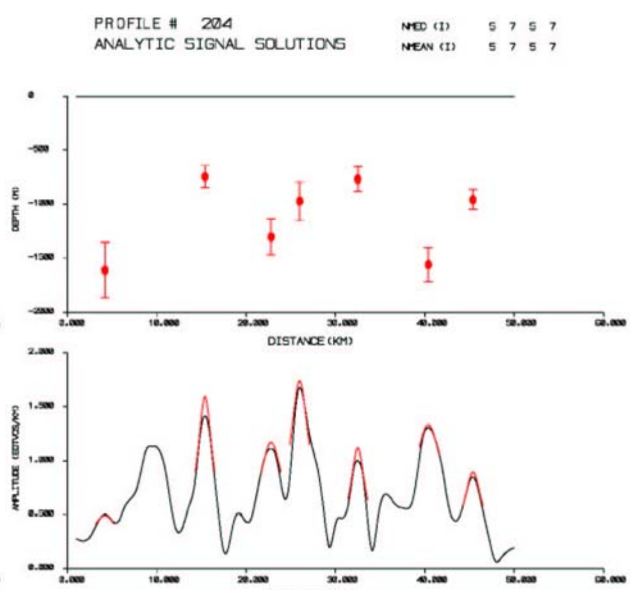
Results of the interpretation, by the method of the analytic signal in 2D, of the stripped zones 1 to 11.

For the same reasons as those given in the preceding chapter only some examples are presented here. The whole results are in the annex of the printed version of this report.



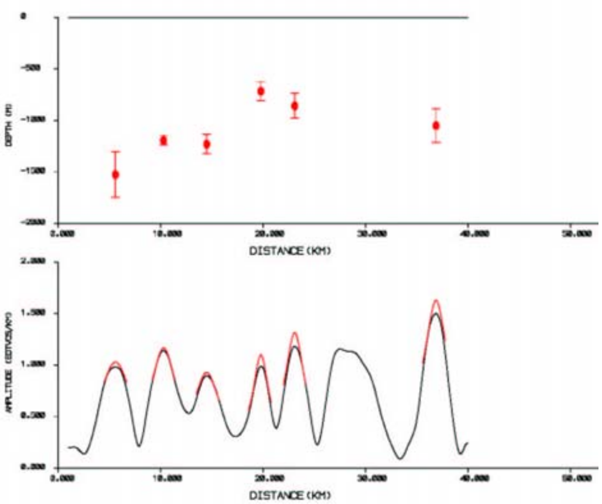






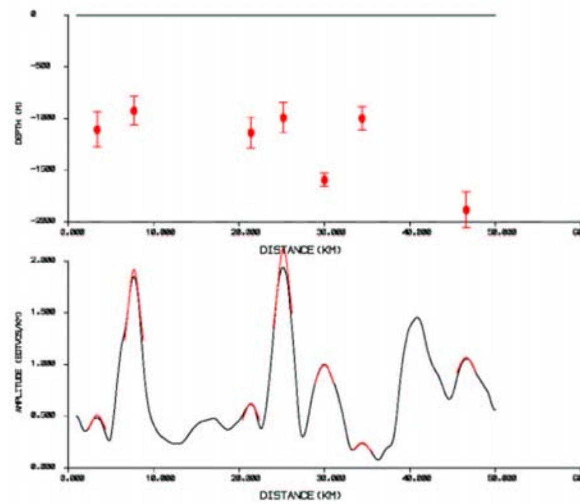
PROFILE # 309
ANALYTIC SIGNAL SOLUTIONS

NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7



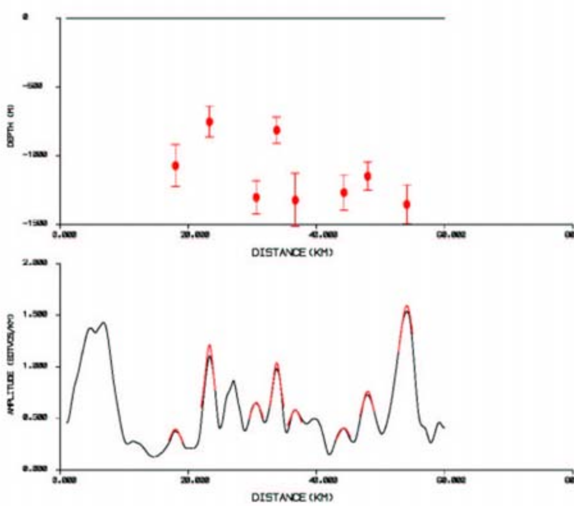
PROFILE # 402
ANALYTIC SIGNAL SOLUTIONS

NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7



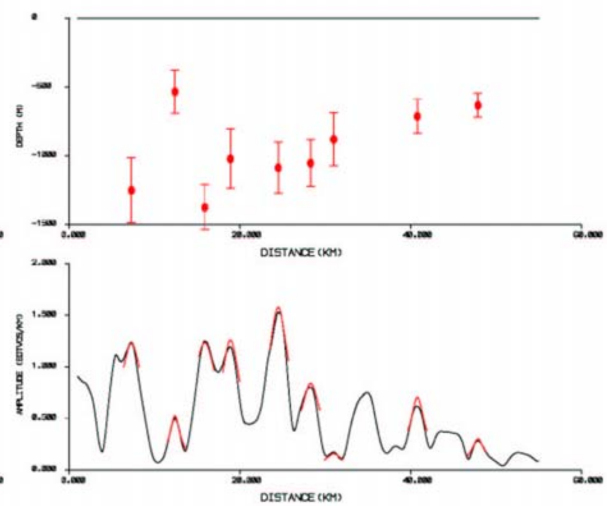
PROFILE # 404
ANALYTIC SIGNAL SOLUTIONS

NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7



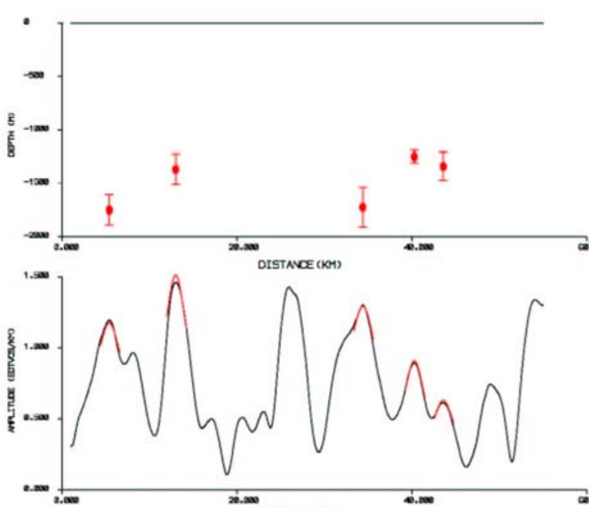
PROFILE # 606
ANALYTIC SIGNAL SOLUTIONS

NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7



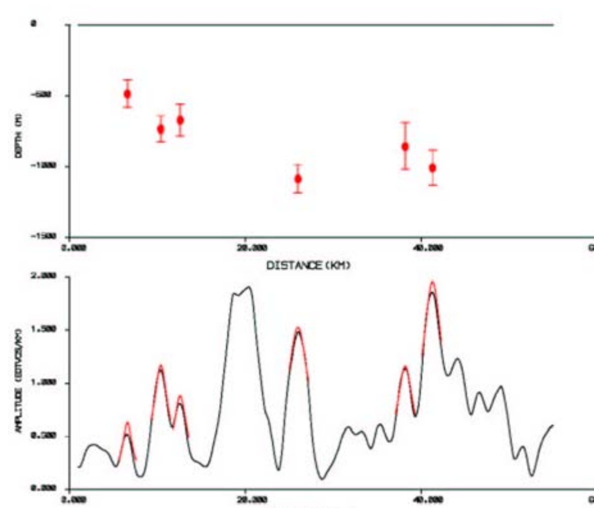
PROFILE # 611
ANALYTIC SIGNAL SOLUTIONS

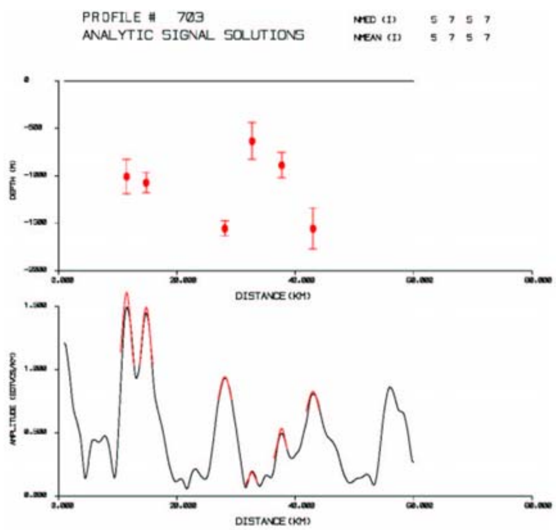
NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7

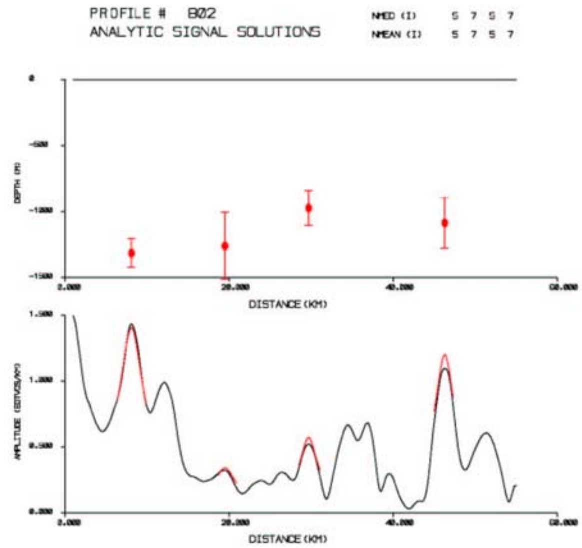


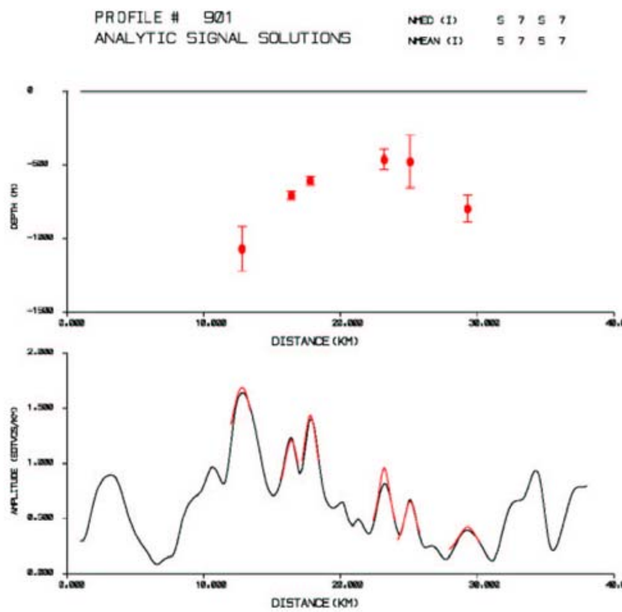
PROFILE # 612
ANALYTIC SIGNAL SOLUTIONS

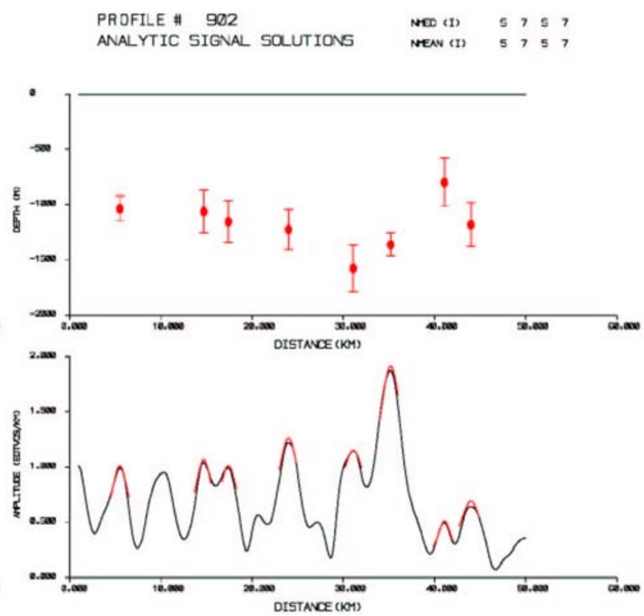
NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7

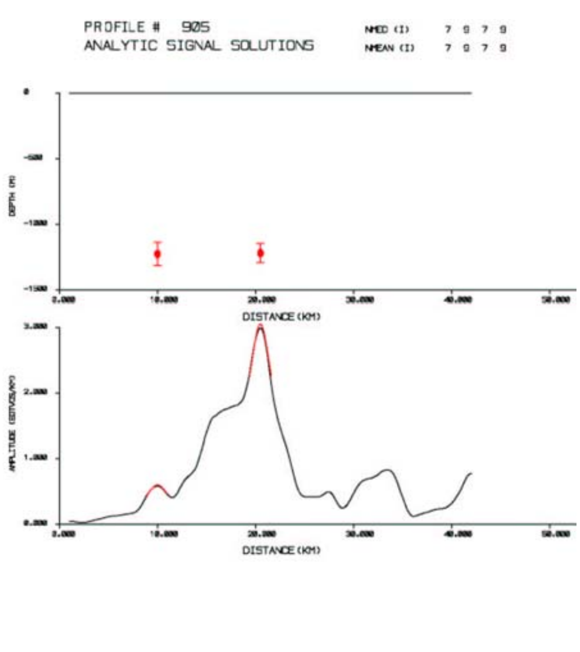


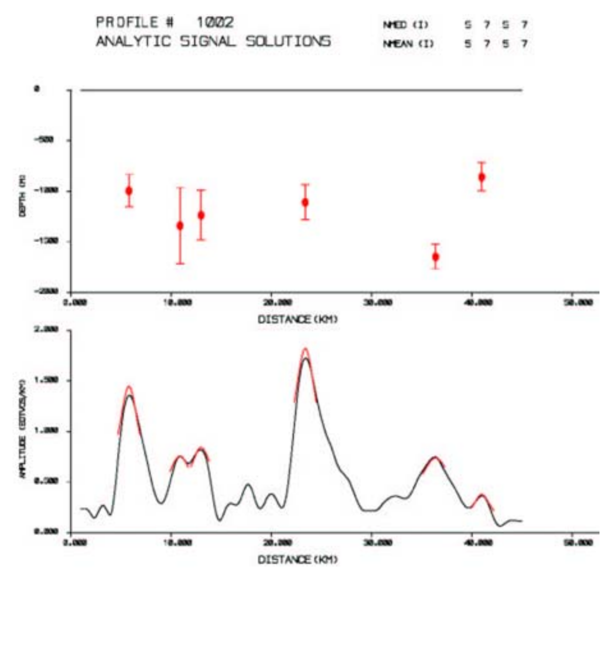

PROFILE # 703
ANALYTIC SIGNAL SOLUTIONS
NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7
DEPTH (M)
DISTANCE (KM)
DISTANCE (KM)

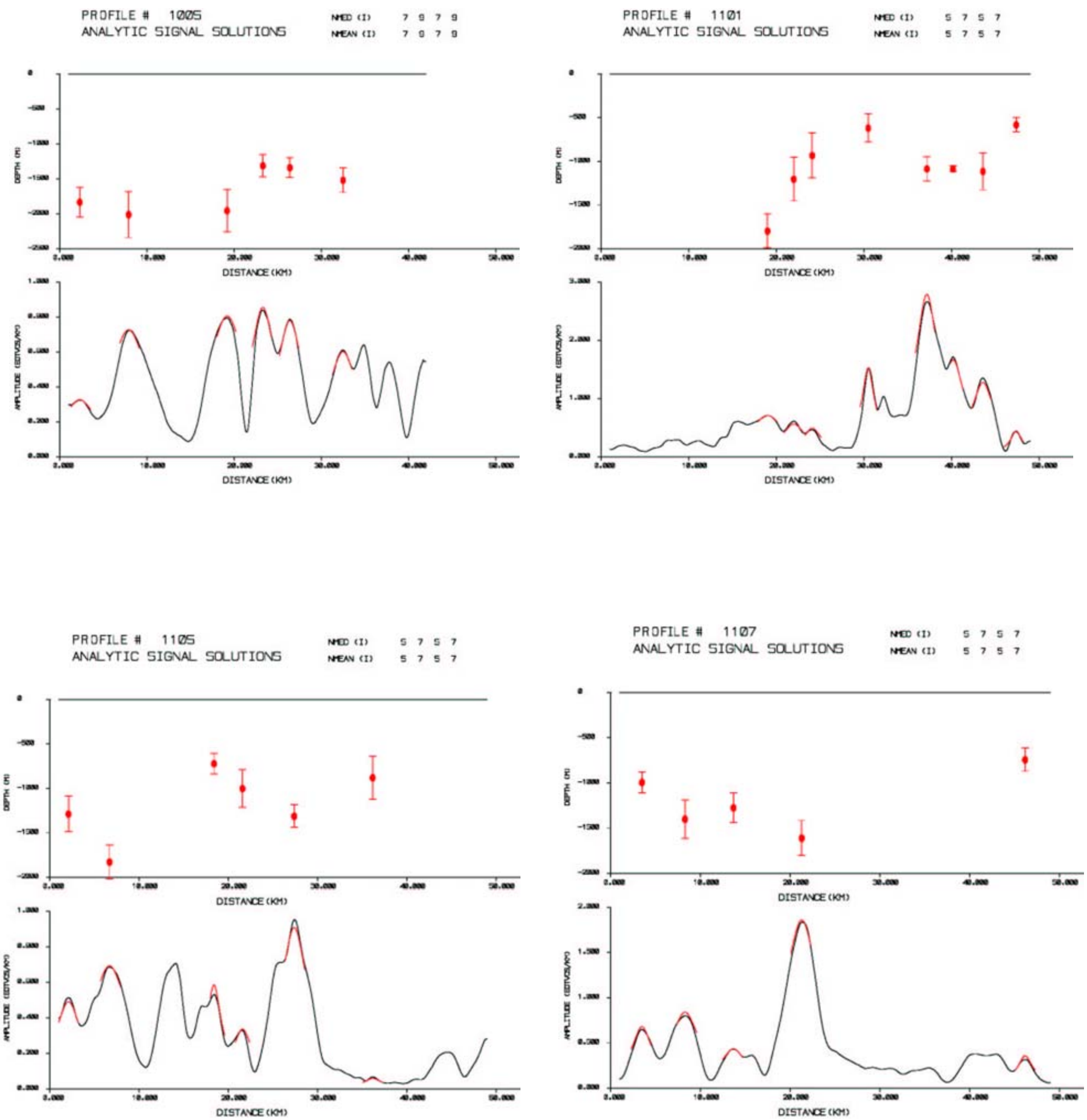

PROFILE # 802
ANALYTIC SIGNAL SOLUTIONS
NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7
DEPTH (M)
DISTANCE (KM)
DISTANCE (KM)


PROFILE # 901
ANALYTIC SIGNAL SOLUTIONS
NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7
DEPTH (M)
DISTANCE (KM)
DISTANCE (KM)


PROFILE # 902
ANALYTIC SIGNAL SOLUTIONS
NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7
DEPTH (M)
DISTANCE (KM)
DISTANCE (KM)


PROFILE # 905
ANALYTIC SIGNAL SOLUTIONS
NMED (I) 7 9 7 9
NMEAN (I) 7 9 7 9
DEPTH (M)
DISTANCE (KM)
DISTANCE (KM)

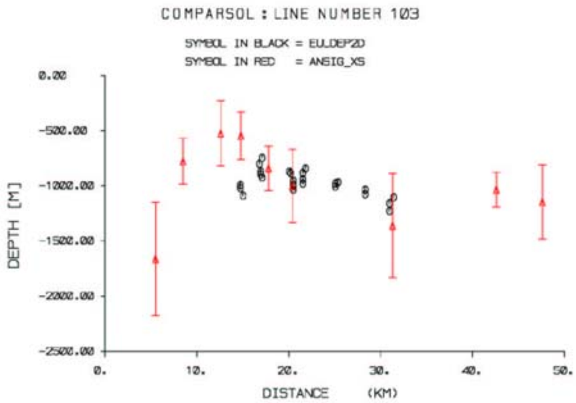

PROFILE # 1002
ANALYTIC SIGNAL SOLUTIONS
NMED (I) 5 7 5 7
NMEAN (I) 5 7 5 7
DEPTH (M)
DISTANCE (KM)
DISTANCE (KM)

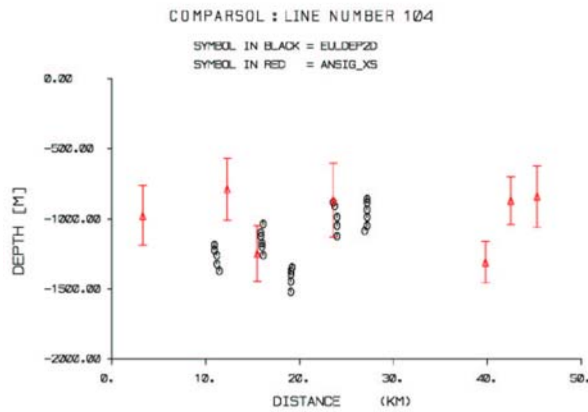


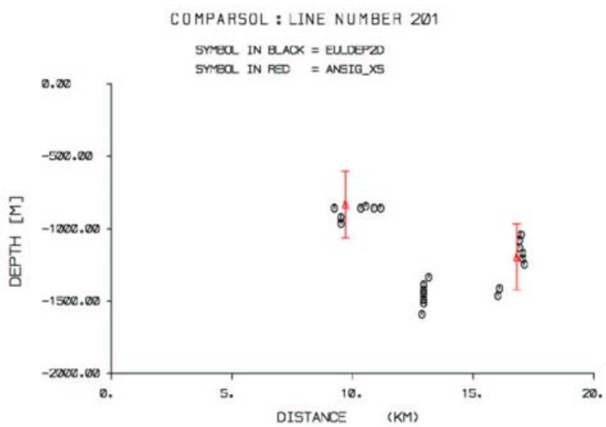
Figures 20a-20t: Examples of solutions obtained by the method of the analytic signal in 2D on profiles of the stripped zones 1 to 11.

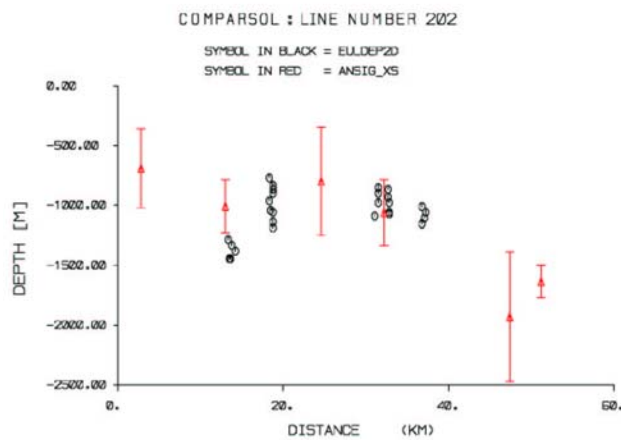
Comparison between the results obtained by the Euler deconvolution in 2D and those obtained by the method of the analytic signal in 2D for the stripped zones 1 to 11.

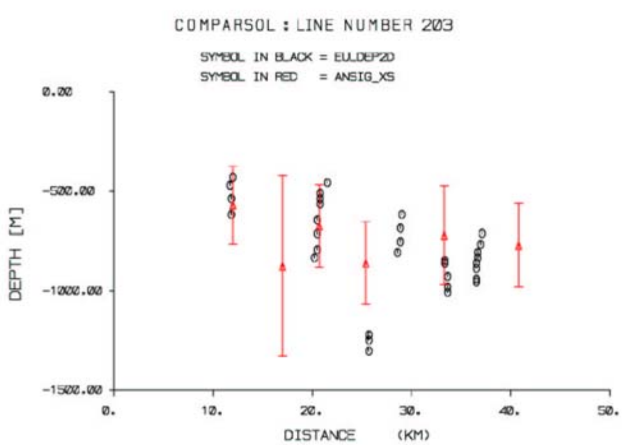
Here also only some examples are shown.

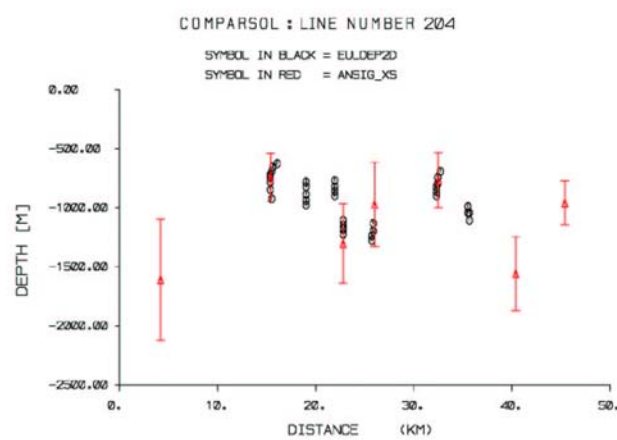

COMPARSOL : LINE NUMBER 103
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

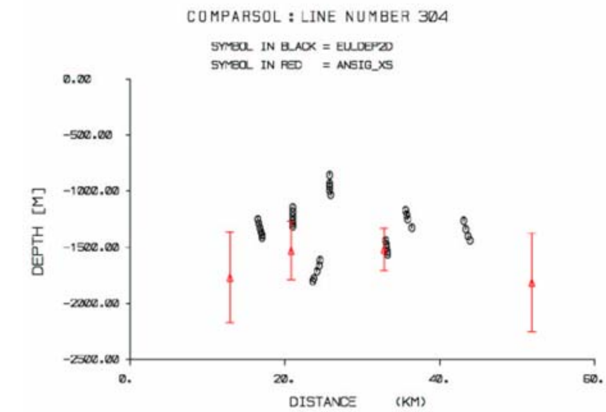

COMPARSOL : LINE NUMBER 104
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

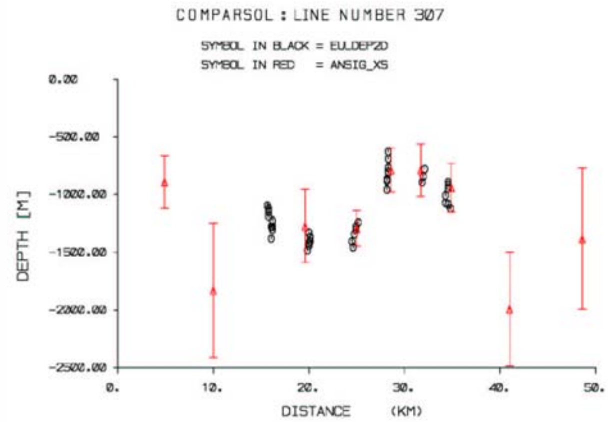

COMPARSOL : LINE NUMBER 201
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

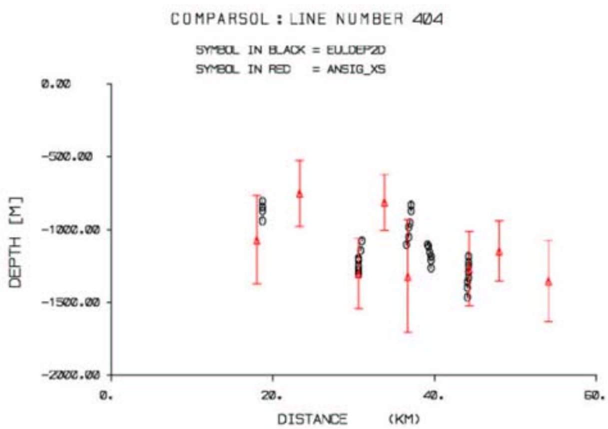

COMPARSOL : LINE NUMBER 202
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

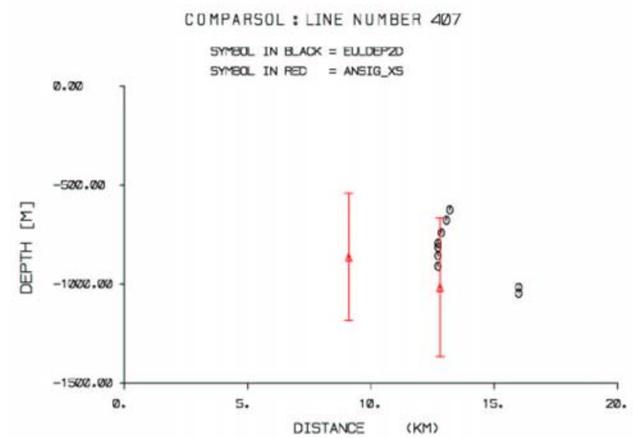

COMPARSOL : LINE NUMBER 203
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

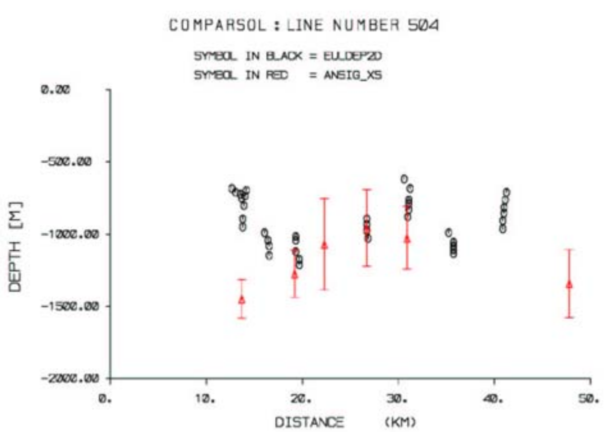

COMPARSOL : LINE NUMBER 204
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

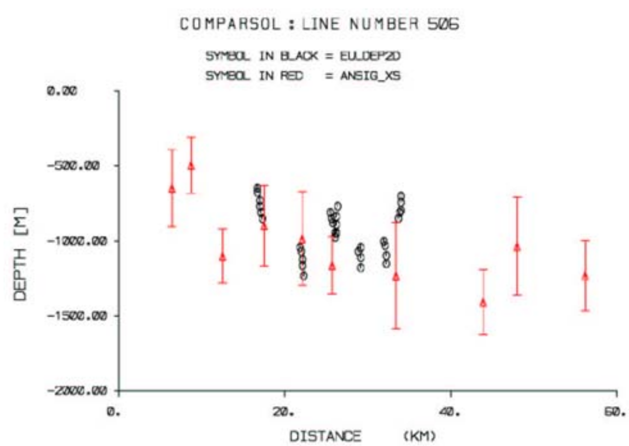

COMPARSOL : LINE NUMBER 304
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

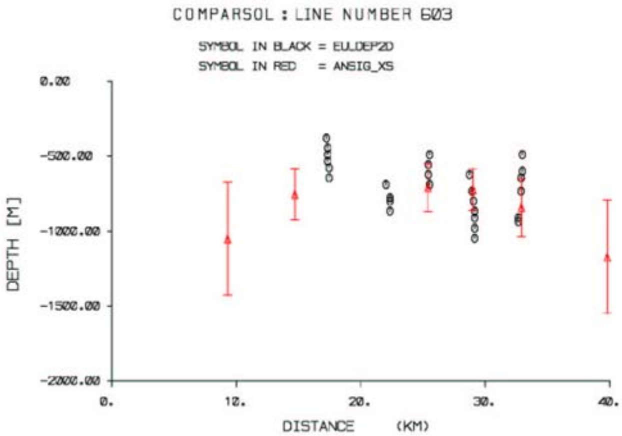

COMPARSOL : LINE NUMBER 307
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

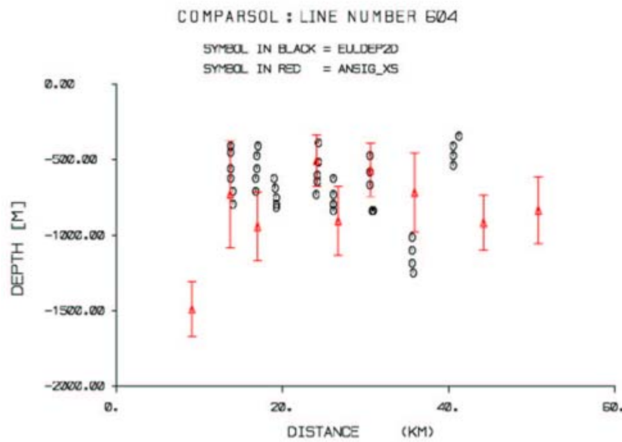

COMPARSOL : LINE NUMBER 404
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

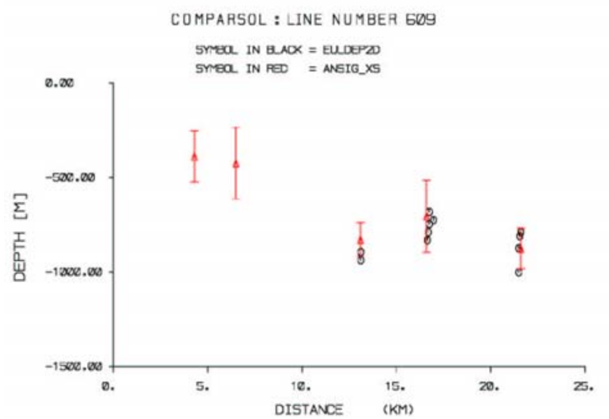

COMPARSOL : LINE NUMBER 407
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

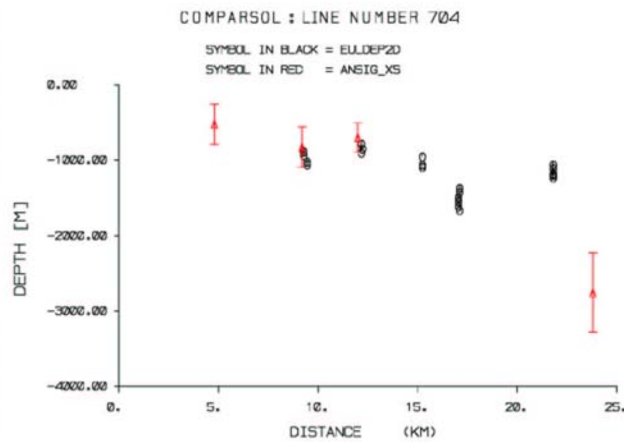

COMPARSOL : LINE NUMBER 504
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

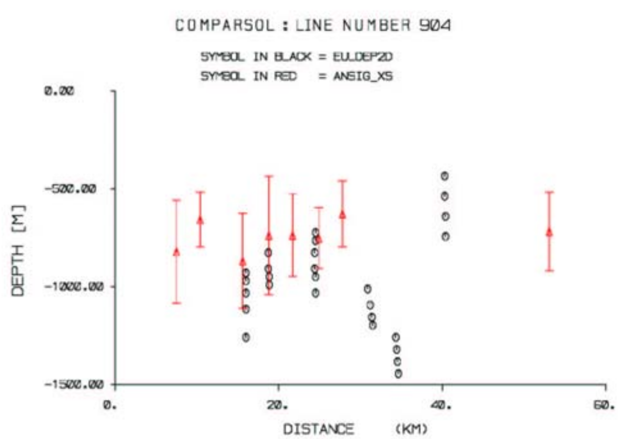

COMPARSOL : LINE NUMBER 506
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

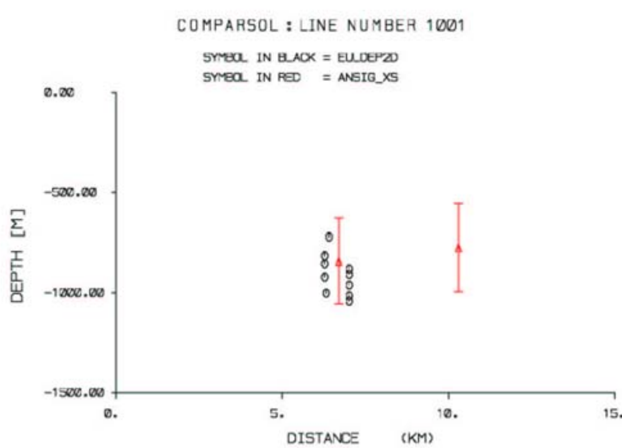

COMPARSOL : LINE NUMBER 603
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

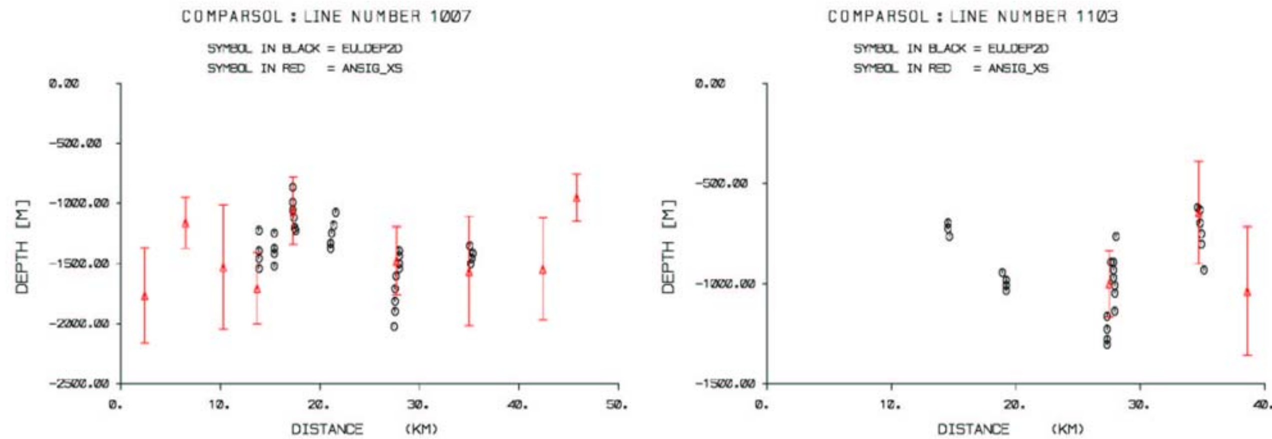

COMPARSOL : LINE NUMBER 604
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)


COMPARSOL : LINE NUMBER 609
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)


COMPARSOL : LINE NUMBER 704
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)


COMPARSOL : LINE NUMBER 904
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

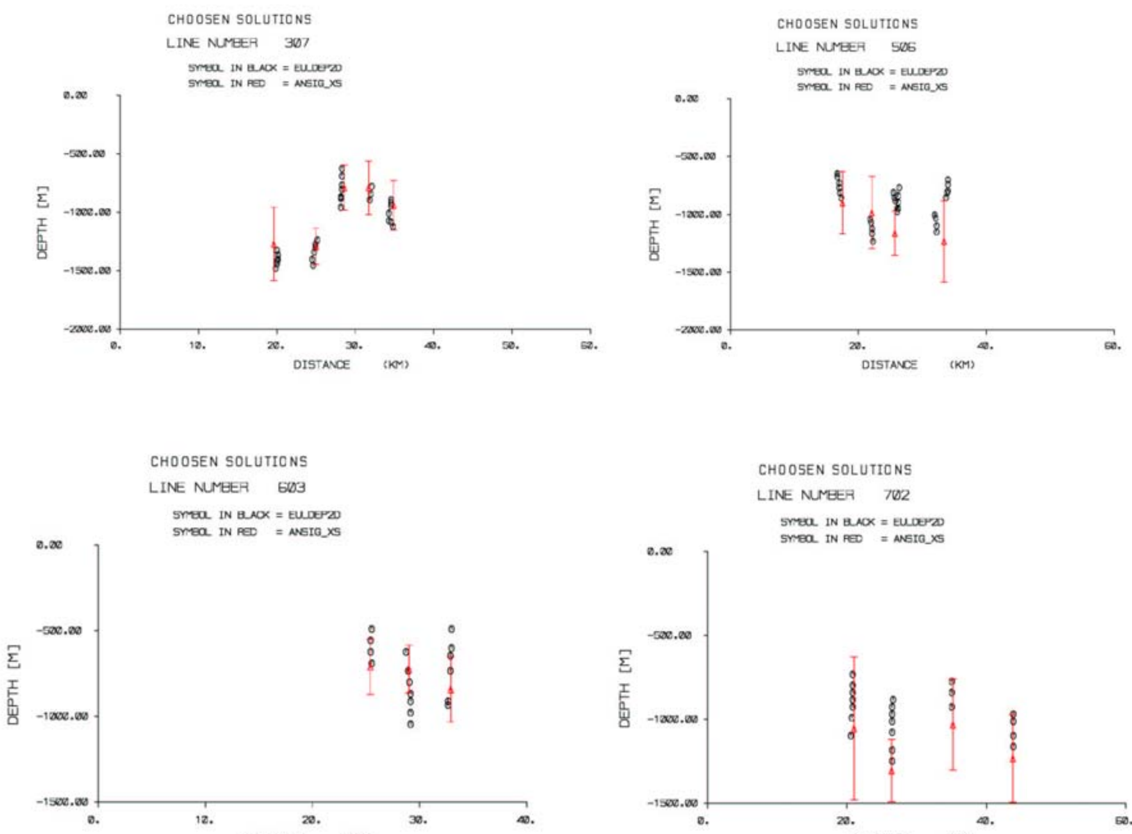

COMPARSOL : LINE NUMBER 1001
SYMBOL IN BLACK = EULDEP2D
SYMBOL IN RED = ANSIG_XS
DEPTH [M]
DISTANCE (KM)

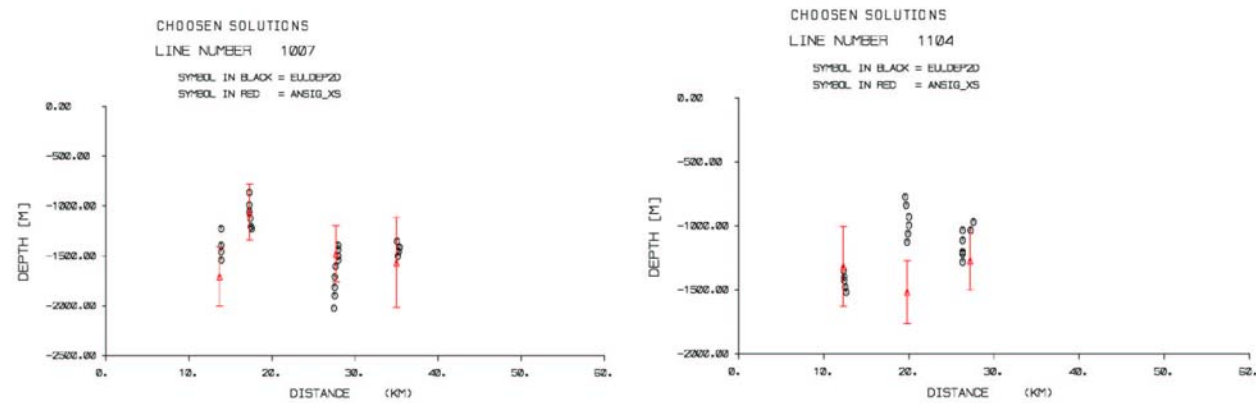


Figures 21a-21t: Examples of comparisons between the solutions obtained by the 2D Euler deconvolution and those obtained by the method of the analytic signal in 2D on profiles of the stripped zones 1 to 11

Solutions retained

From the whole set of solutions obtained from the 2D Euler deconvolution and from the method of the analytic signal in 2D only those showing a certain degree of coherence in the horizontal positions and depth were adopted. Some examples of these solutions are shown in figures 22a to 22f.

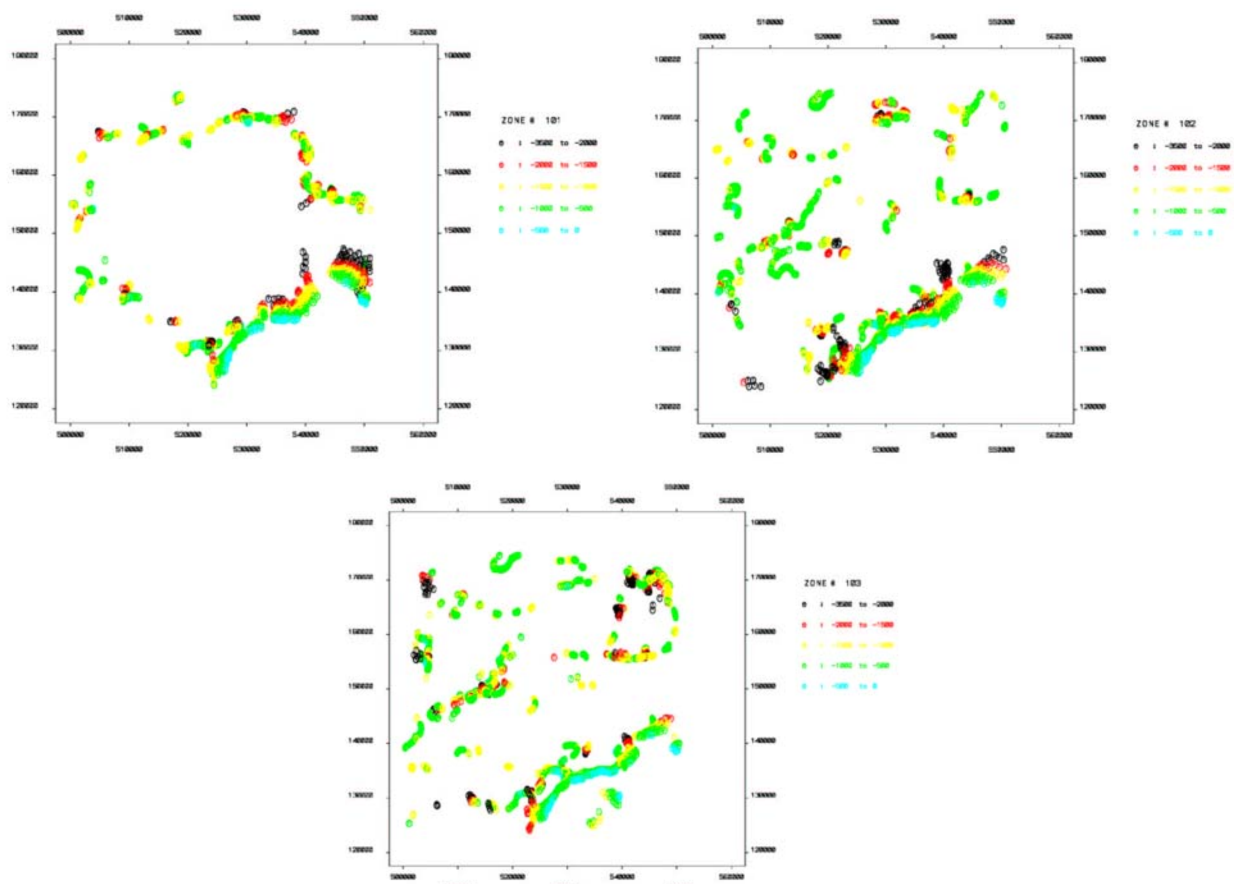




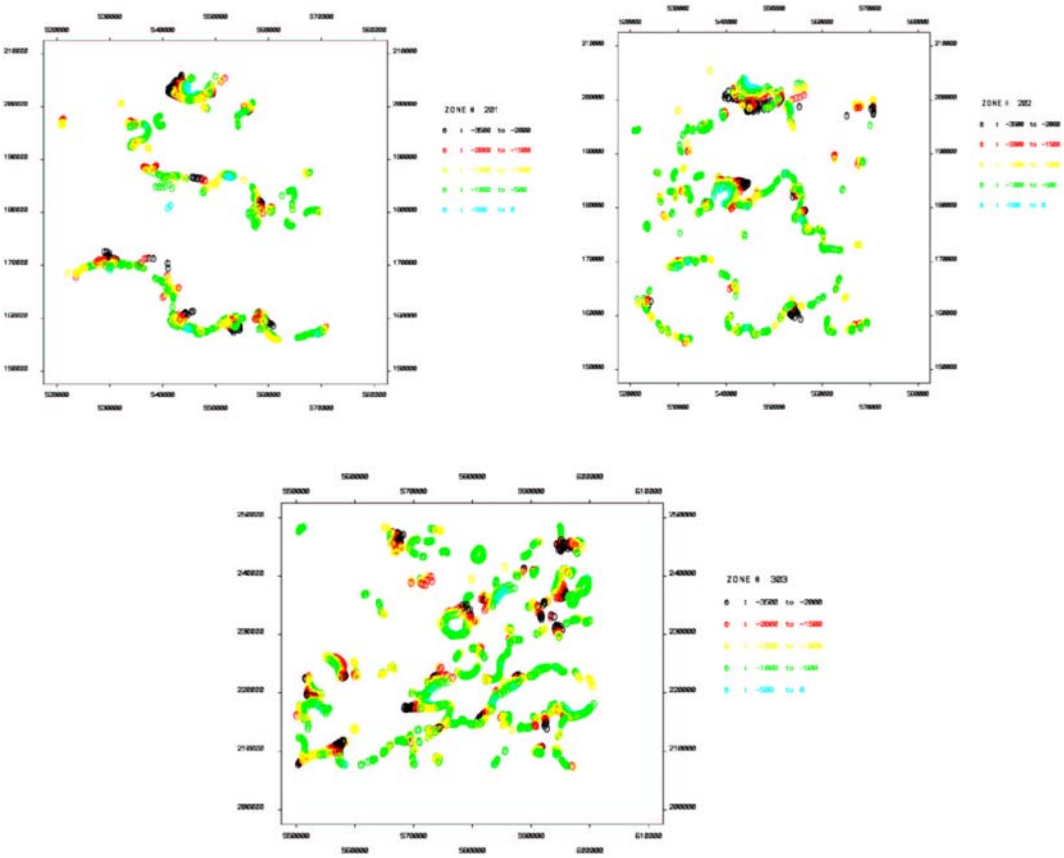
Figures 22a-22f. Examples of common solutions retained from the whole set obtained from the 2D Euler deconvolution and from the method of the analytic signal in 2D

Results of the 3D Euler deconvolution of the stripped residuals fields.

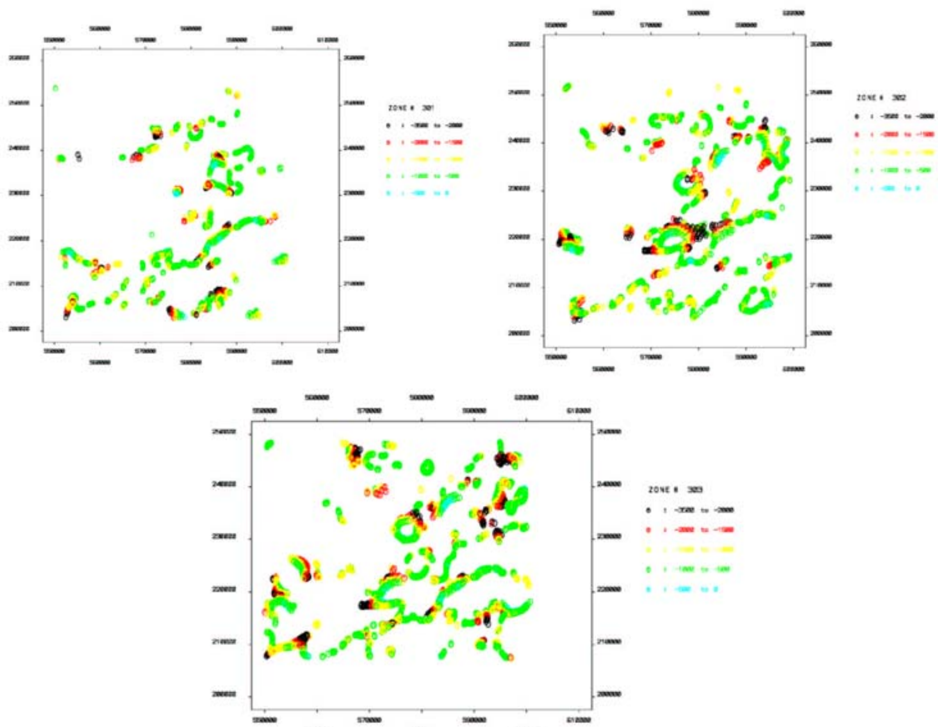
Representation in 2D.



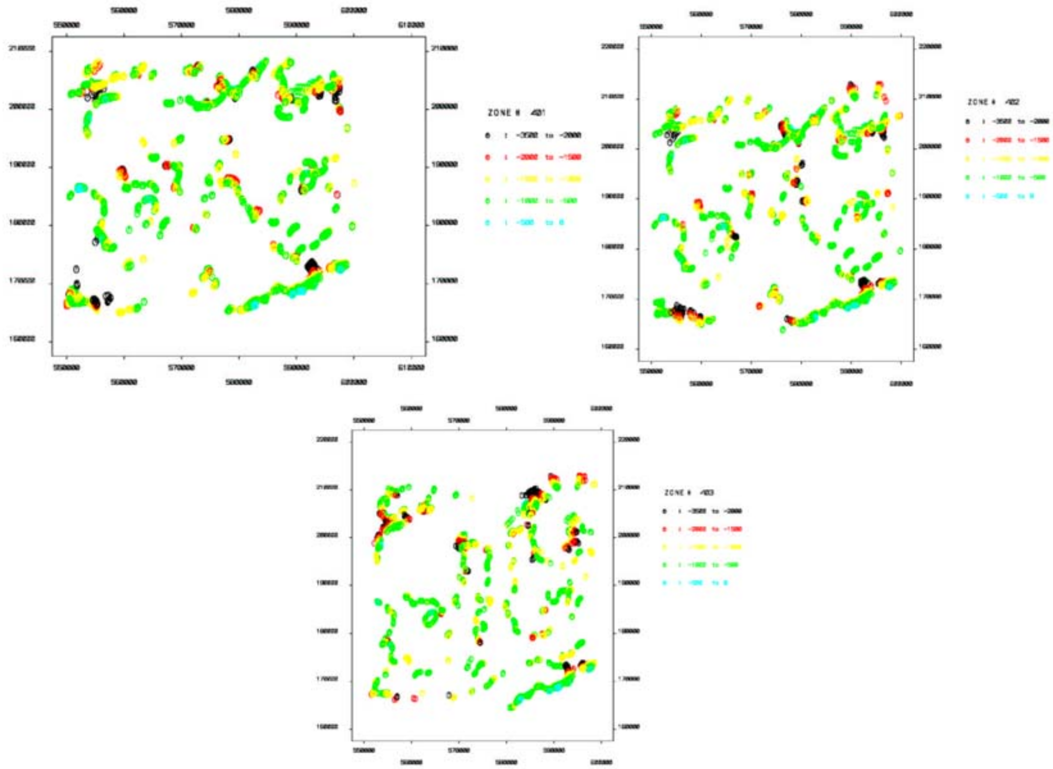
Figures 23a –23c: Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 1.



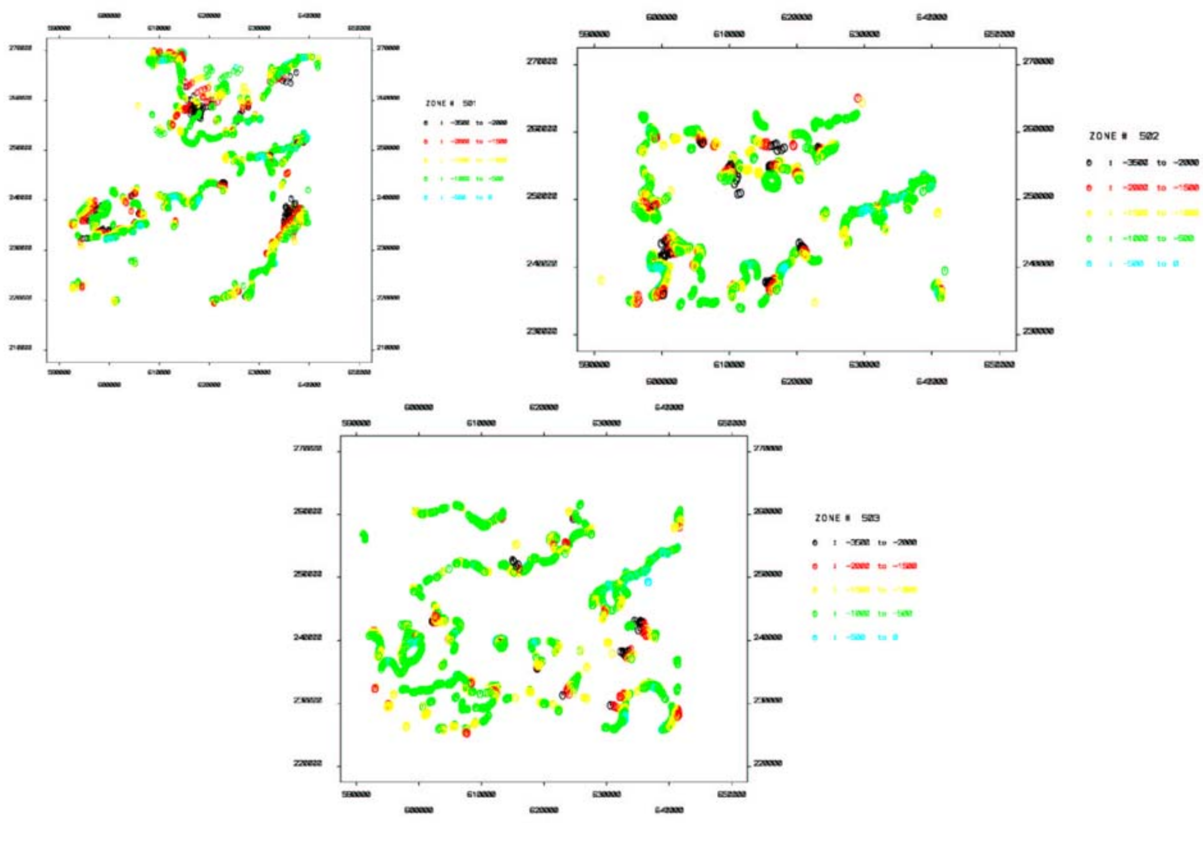
Figures 24a –24c. Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 2.



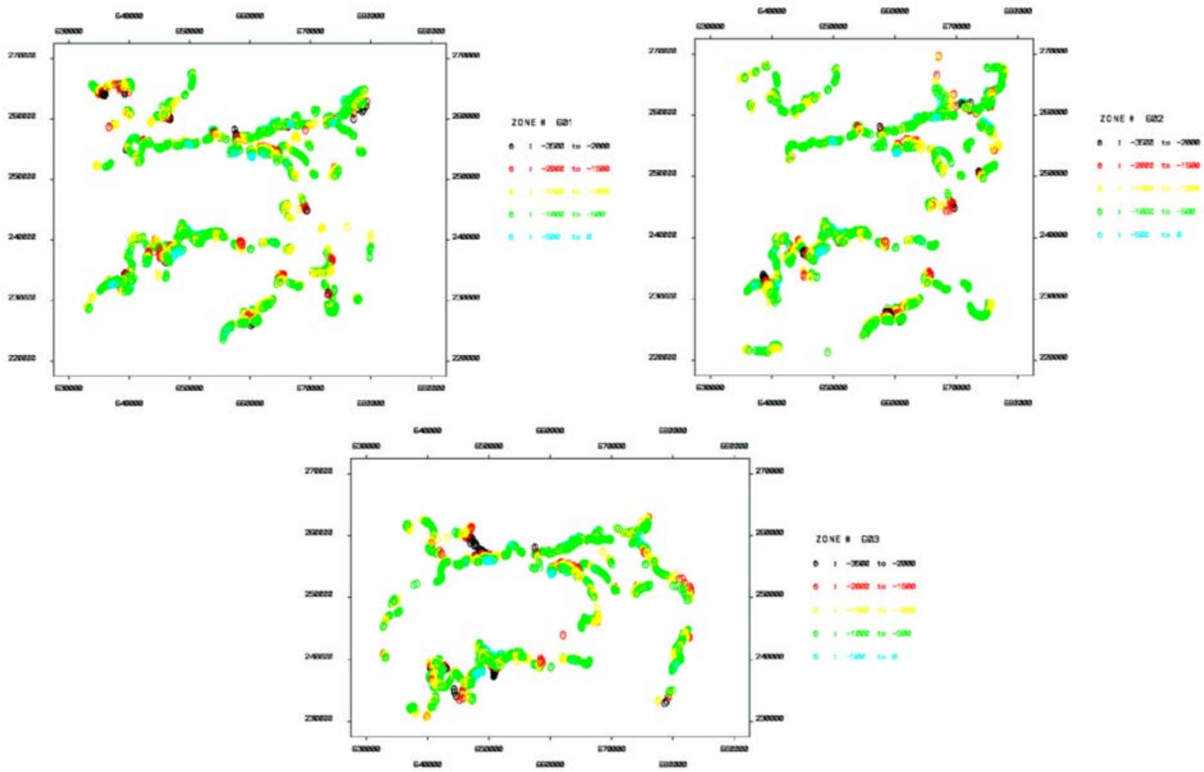
Figures 25a –25c. Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 3.



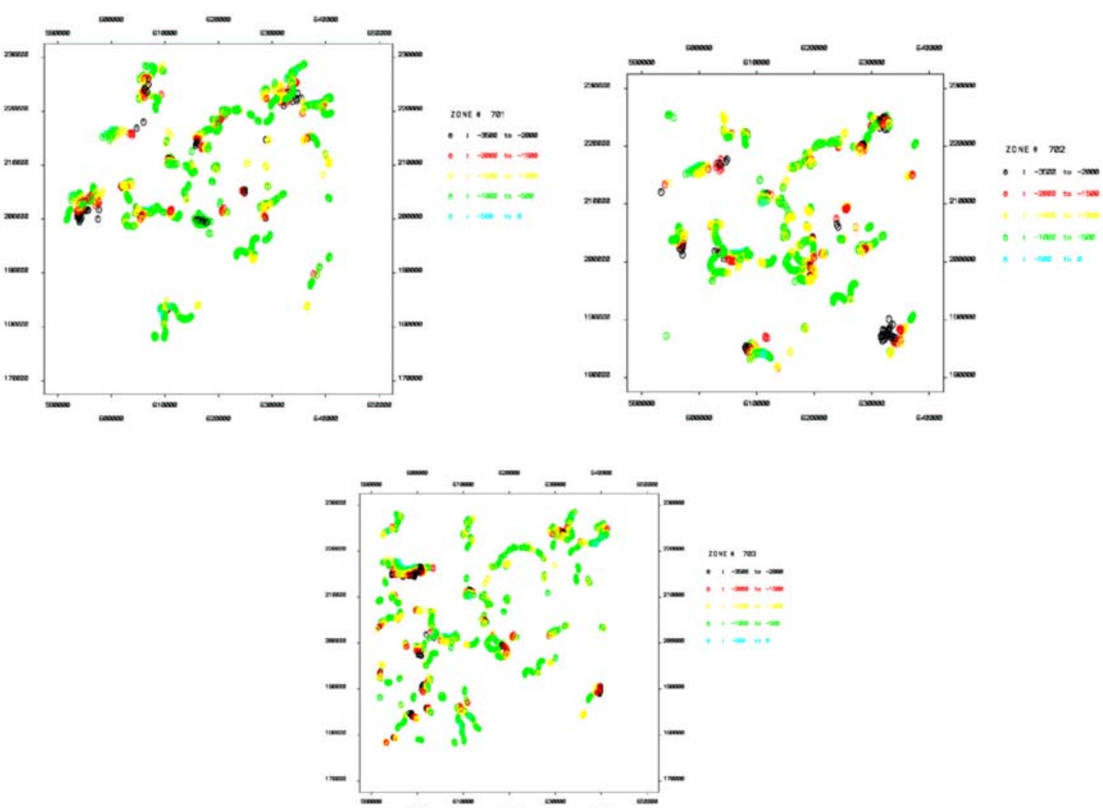
Figures 26a –26c. Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 4.



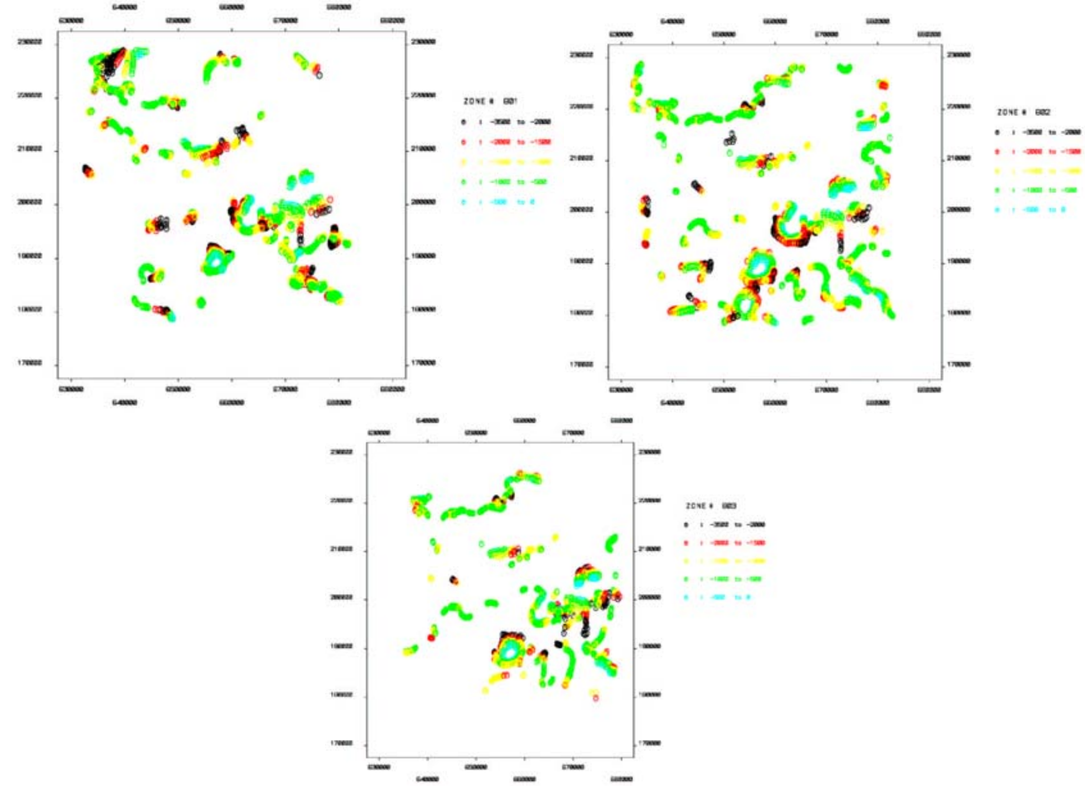
Figures 27a –27c: Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 5.



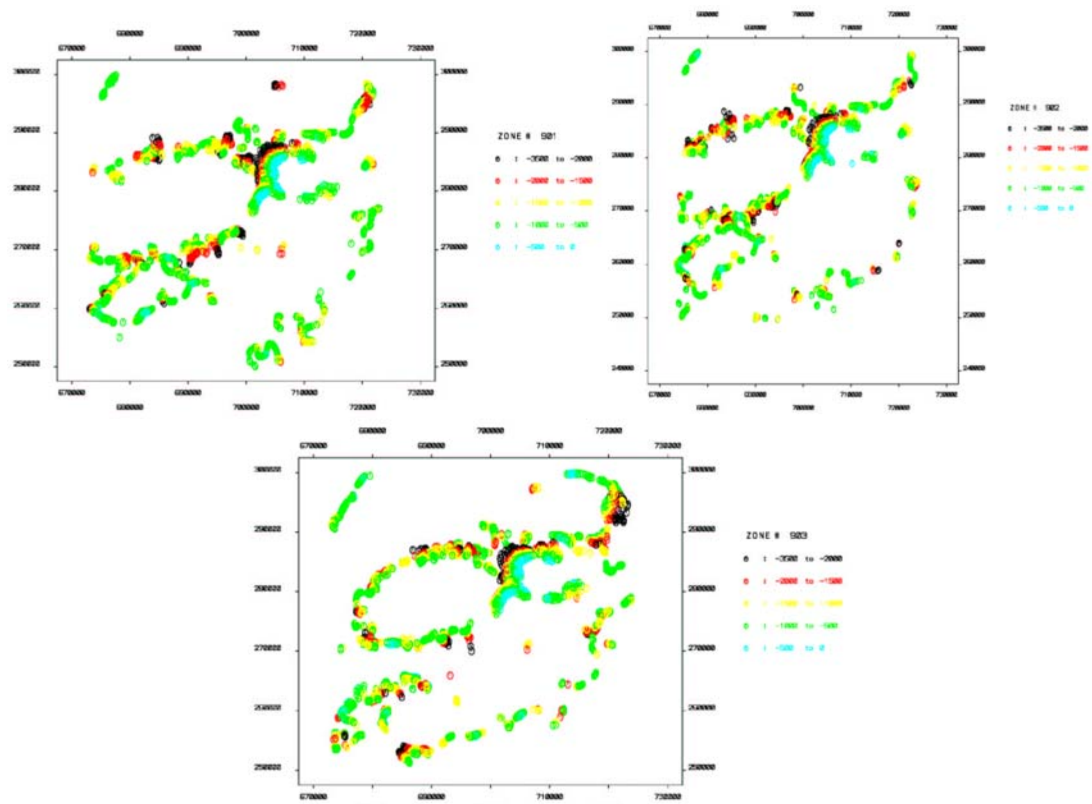
Figures 28a –28c: Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 6.



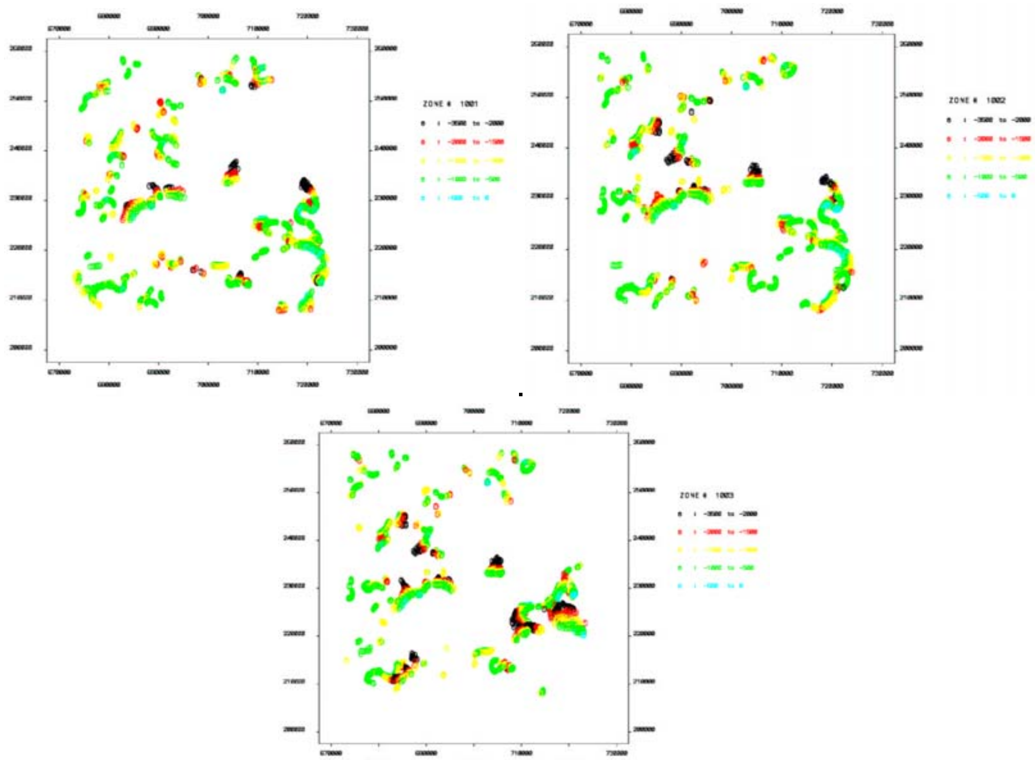
Figures 29a –29c: Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 7.



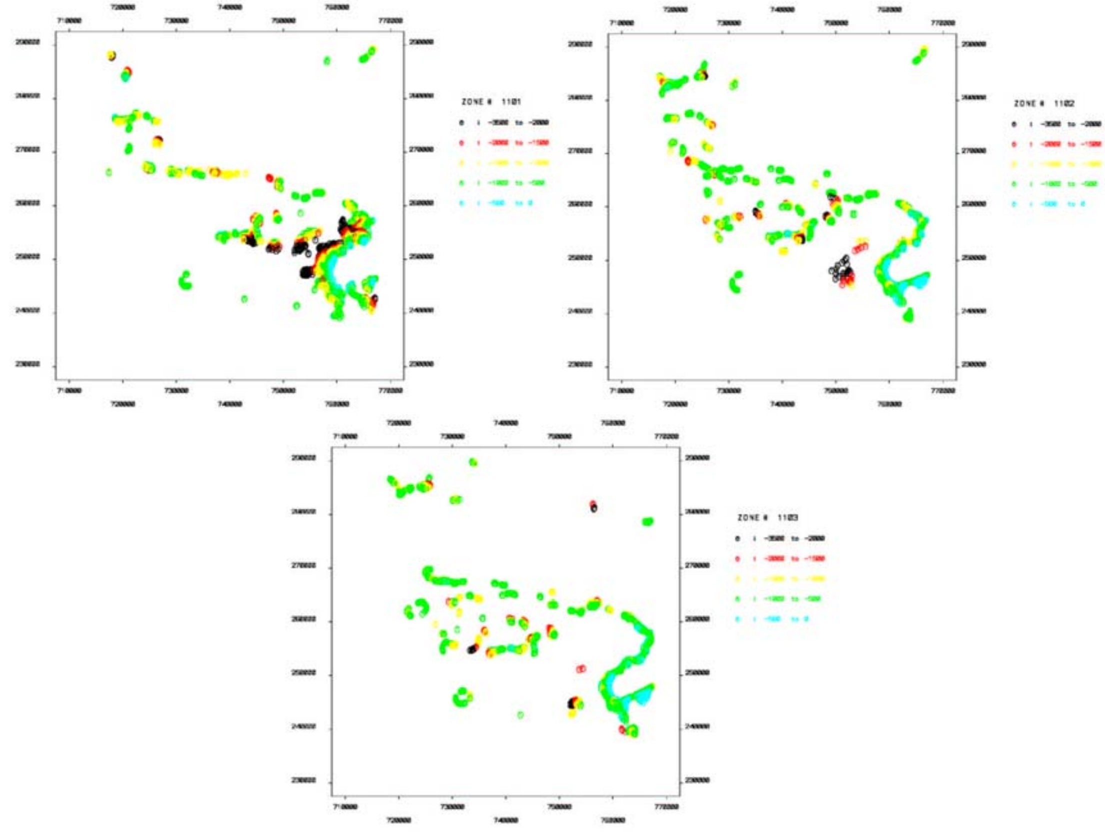
Figures 30a –30c: Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 8.



Figures 31a –31c: Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 9.

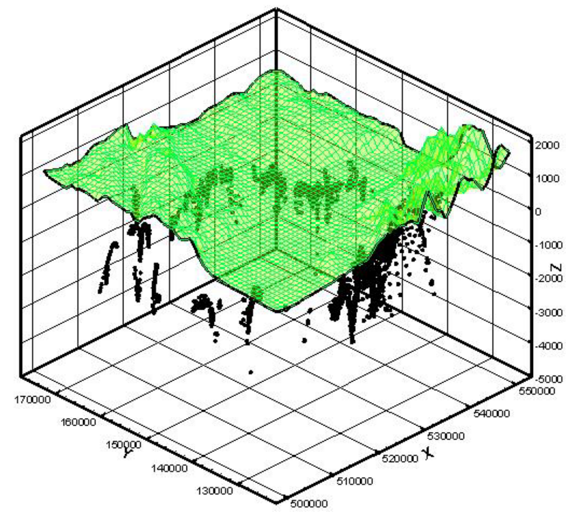


Figures 32a –32c: Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 10.

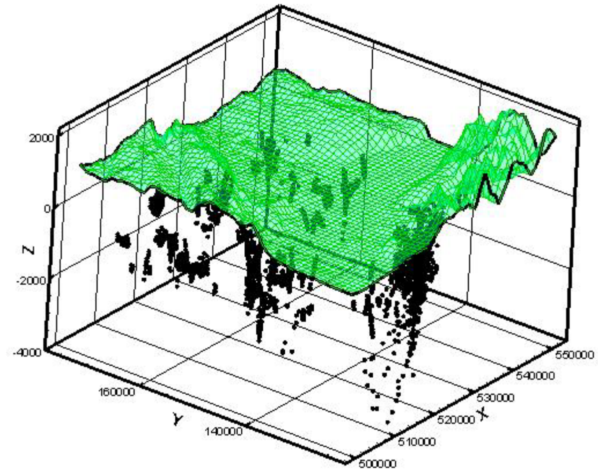


Figures 33a –33c: Results of the 3D Euler deconvolution of the residual fields of degree 1 to 3 of zone # 11.

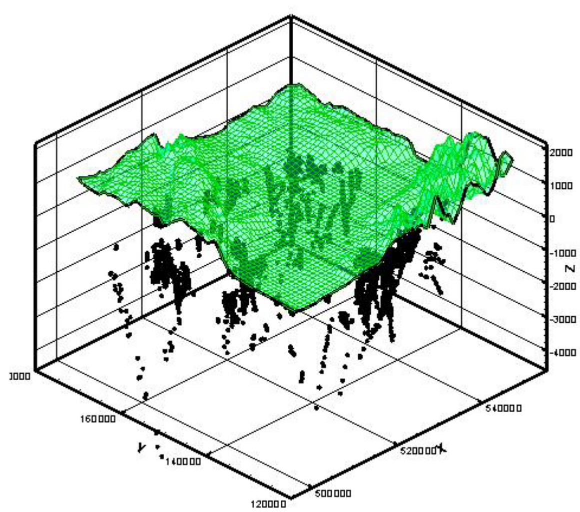
Representation in 3 dimensions



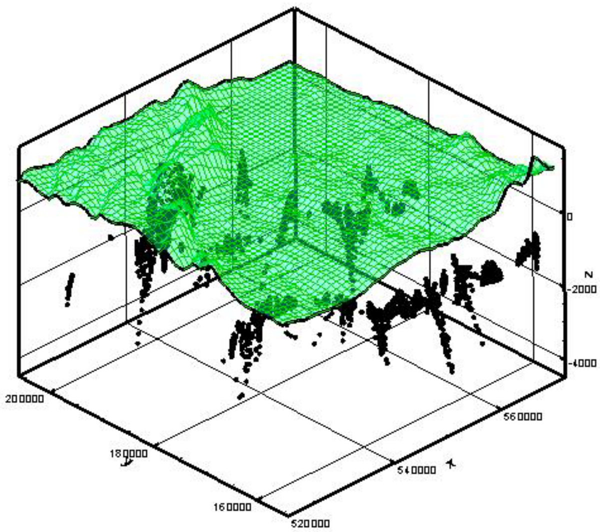
EULER 3D **Zone 01, Résiduelle 1er degré**



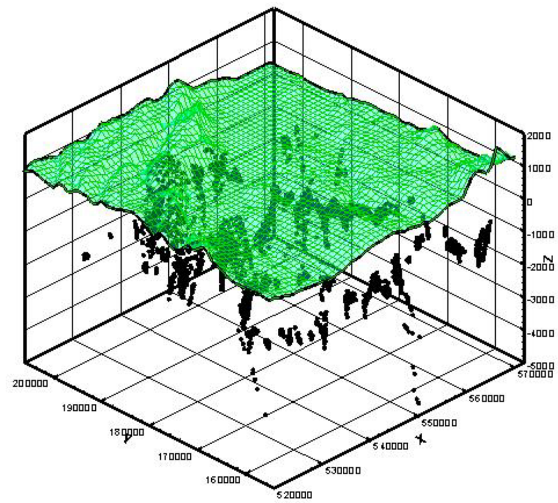
EULER 3D **Zone 1, Résiduelle 2ième degré**



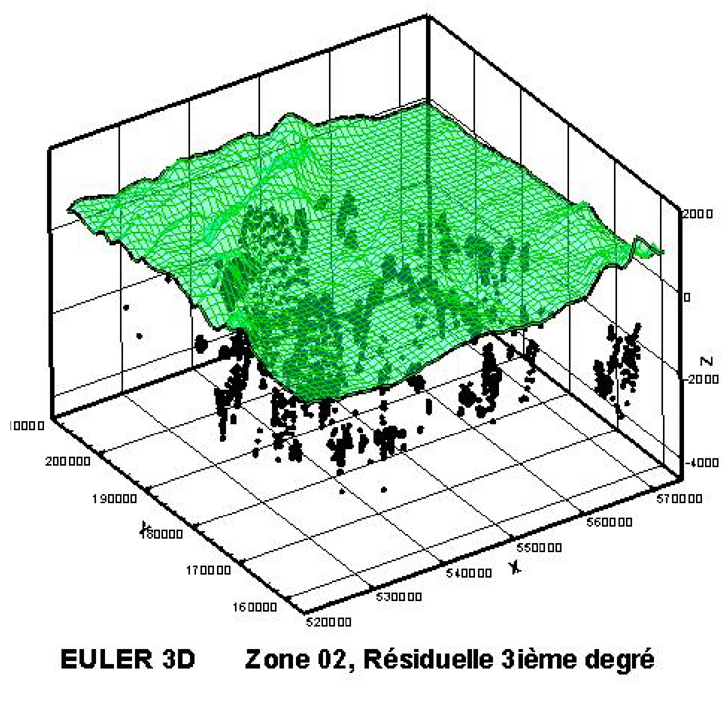
EULER 3D **Zone 01, Résiduelle 3 ième degré**



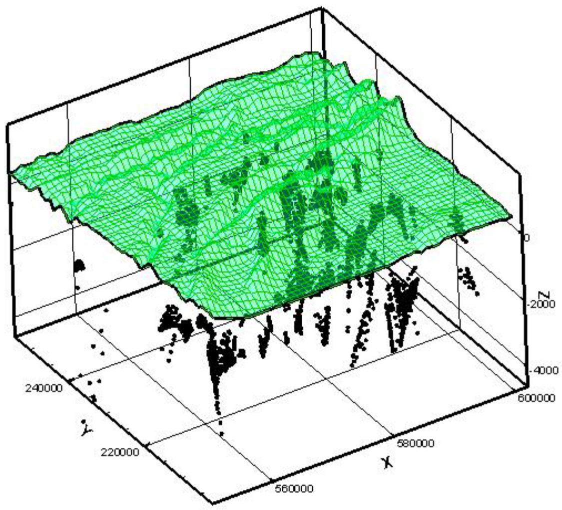
EULER 3D Zone 02, Résiduelle 1ier degré



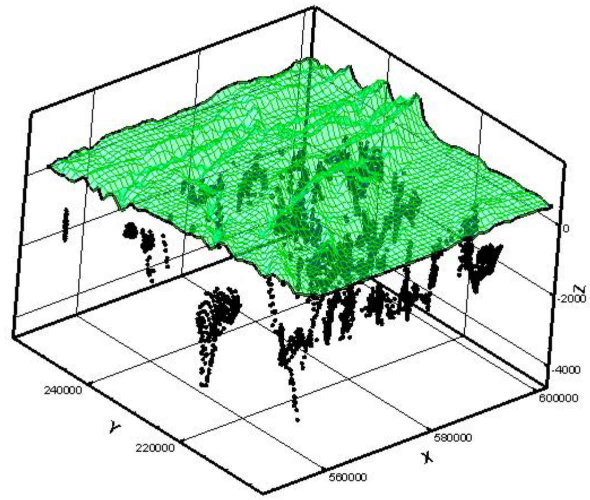
EULER 3D Zone 02, Résiduelle 2ième degré



EULER 3D Zone 02, Résiduelle 3ième degré



EULER 3D   Zone 03, Résiduelle 1ier degré



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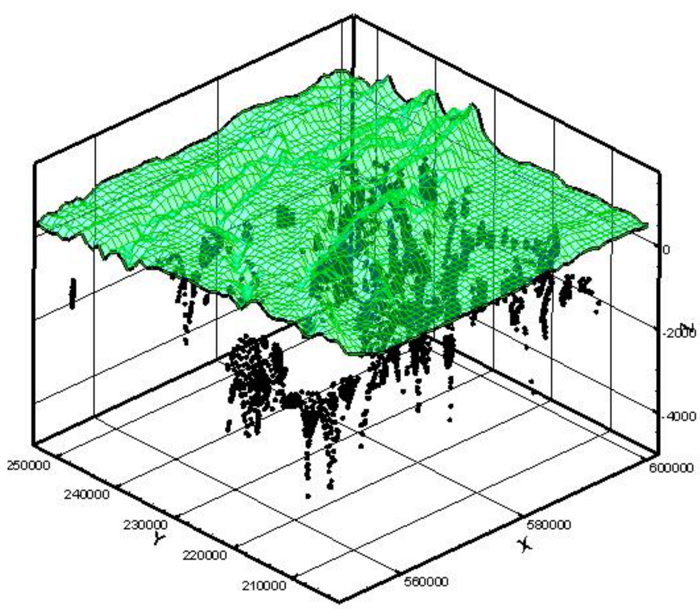
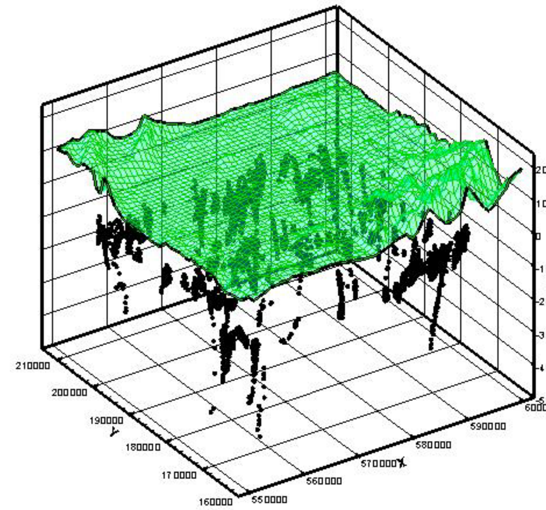


EULER 3D   Zone 03, Résiduelle 3ième degré



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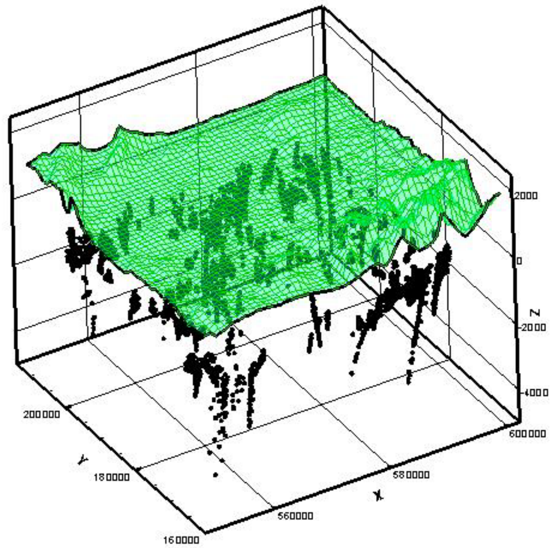

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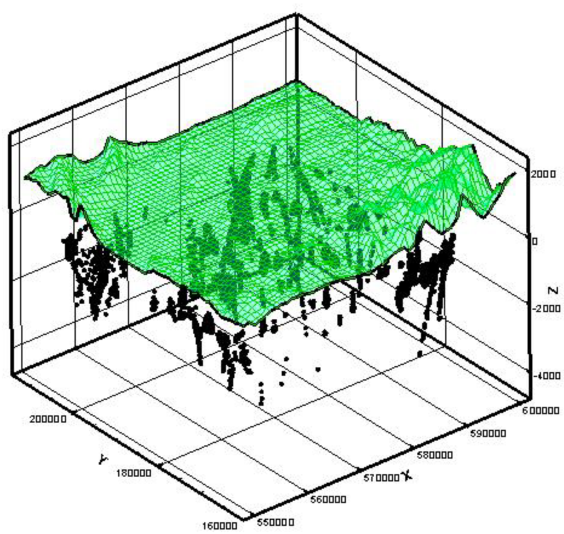

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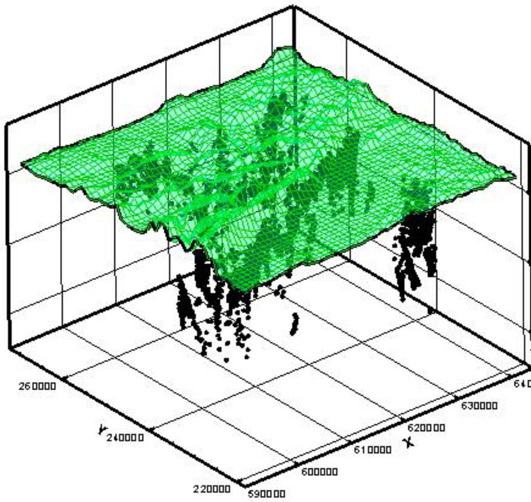

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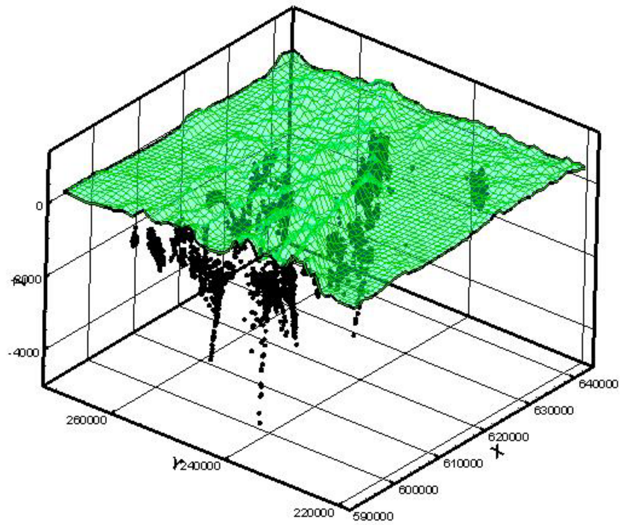

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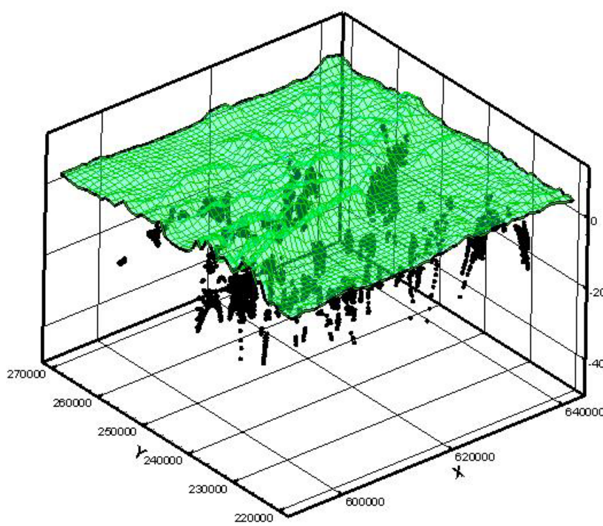

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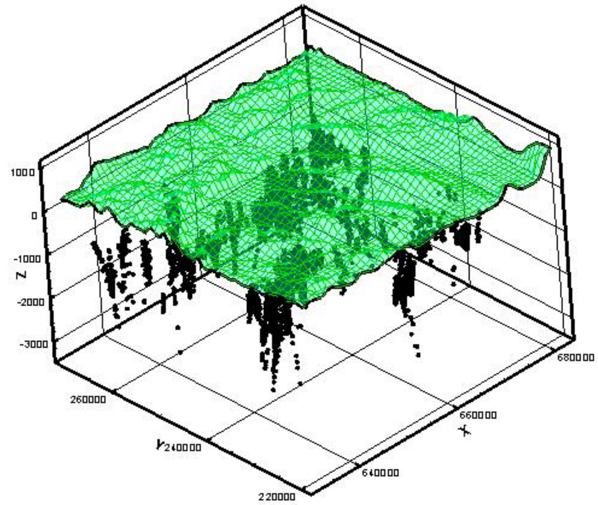

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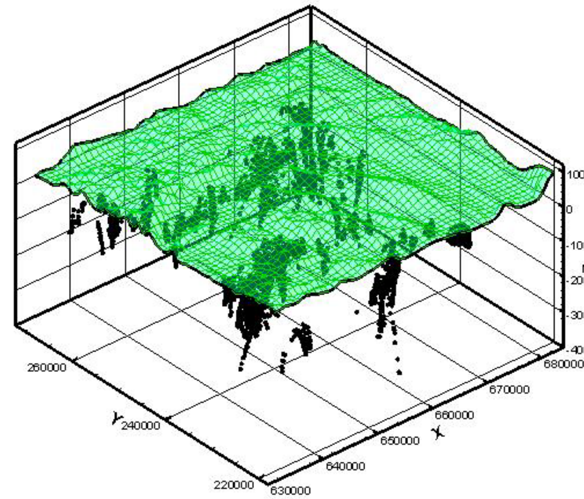

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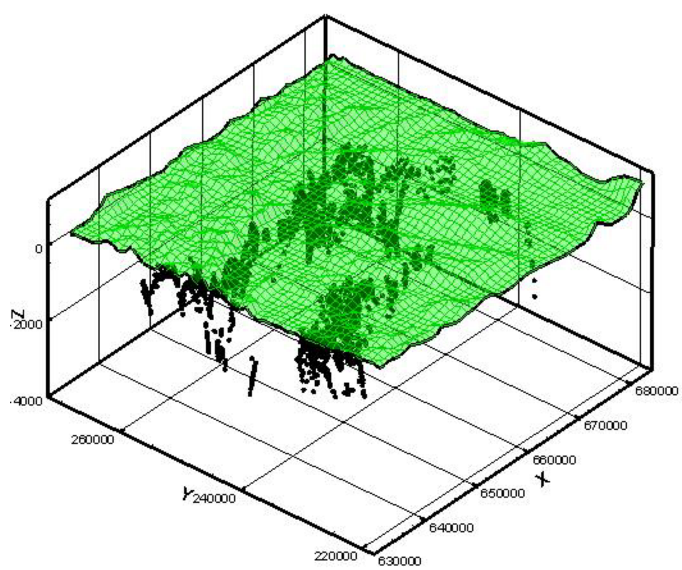

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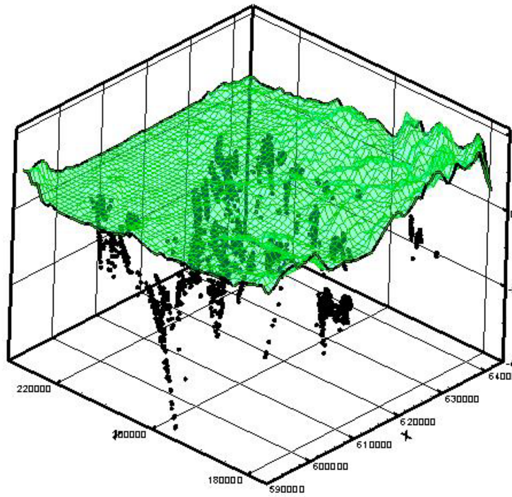

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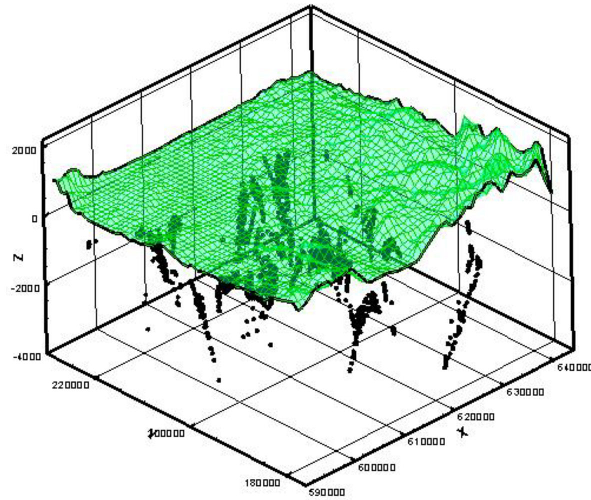

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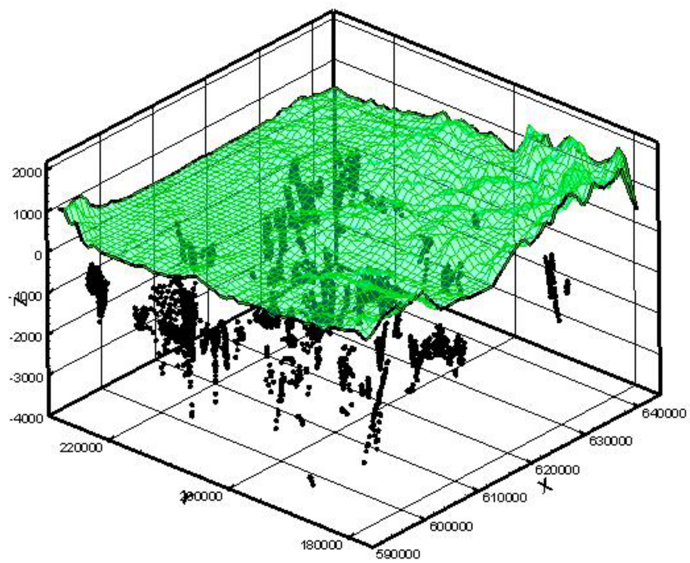
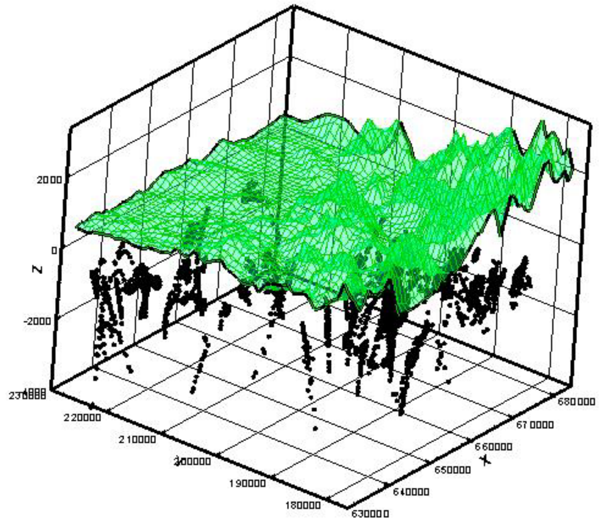


EULER 3D Zone 07, Résiduelle 3ième degré



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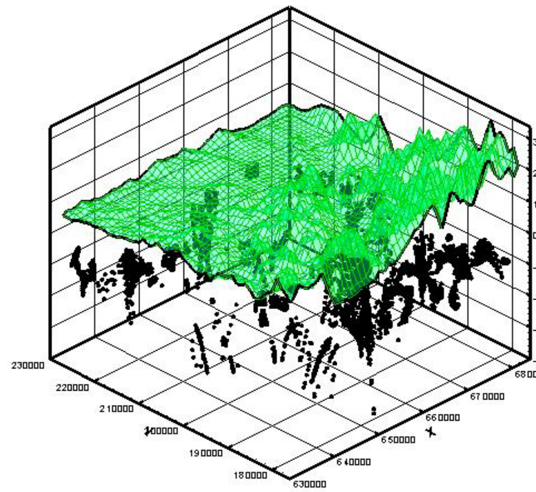

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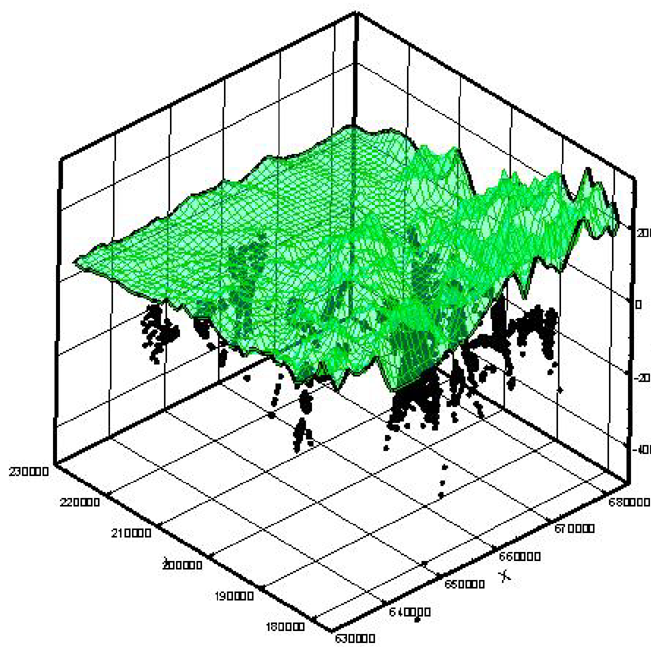

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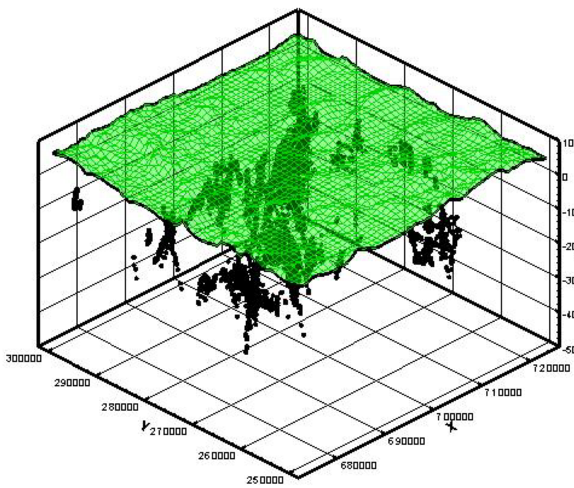
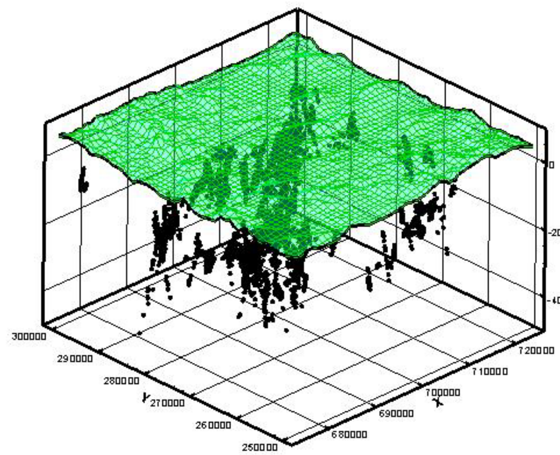


EULER 3D   Zone 09, Résiduelle 1ier degré



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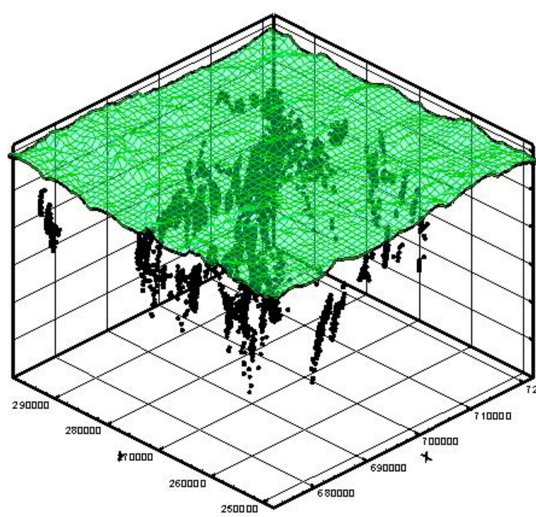

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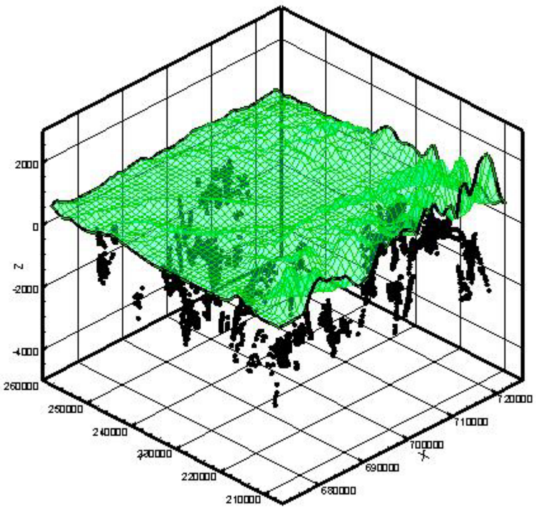

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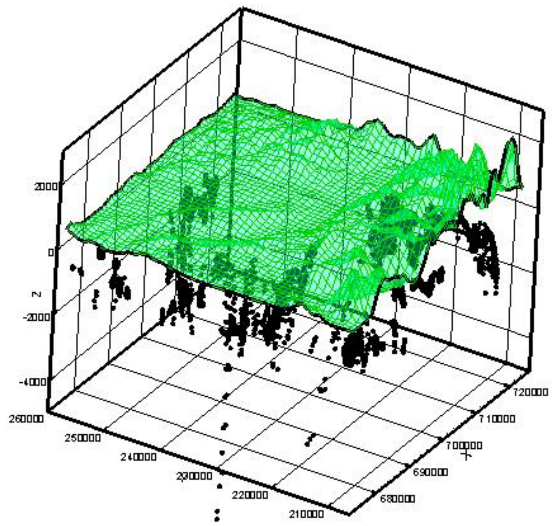

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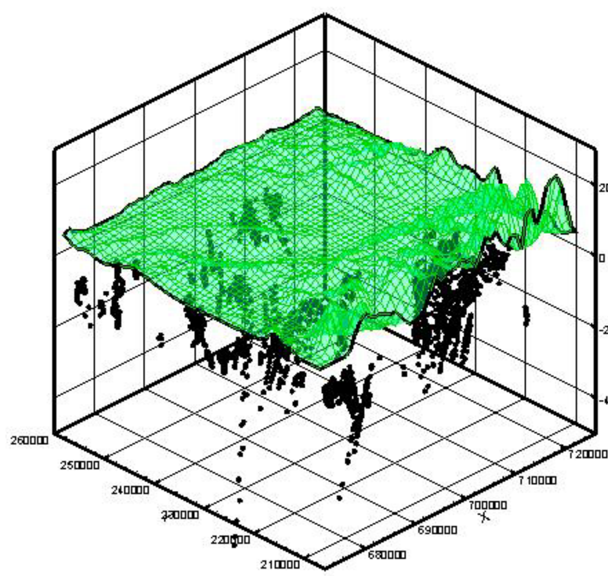

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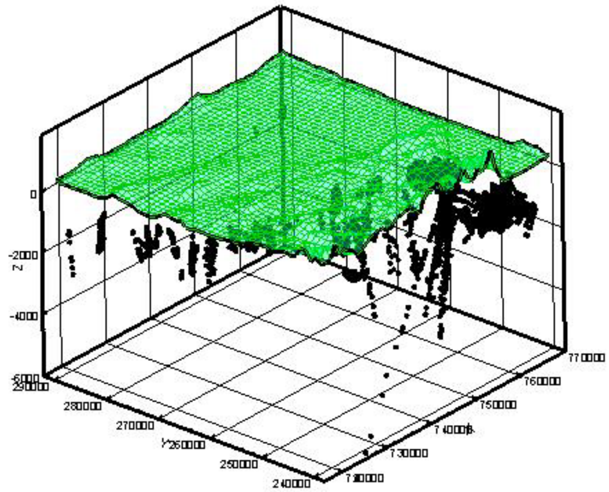
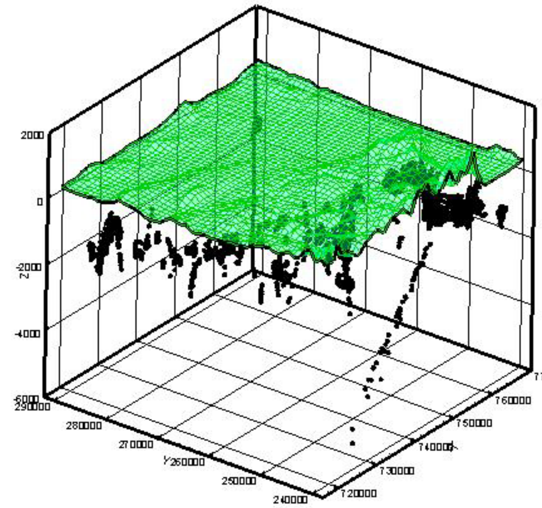
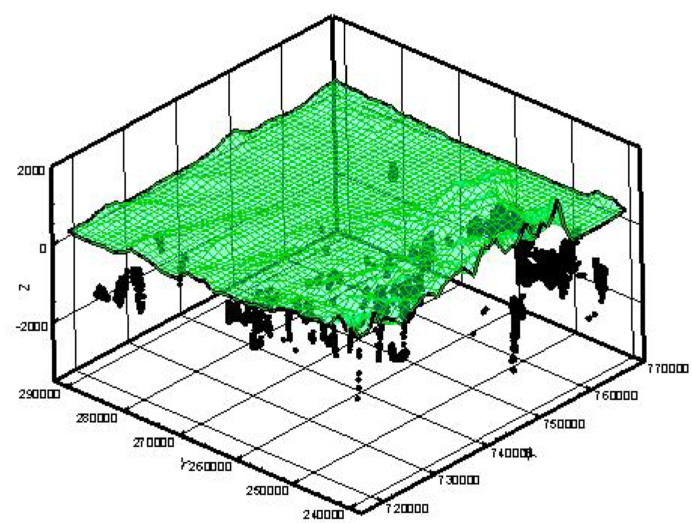


EULER 3D   Zone 11, Résiduelle 1ier degré



EULER 3D   Zone 11, Résiduelle 2ième degré



EULER 3D   Zone 11, Résiduelle 3ième degré

In order to know if the stripping has an effect on the results, we proceeded to a discriminant analysis of three time two sets of the 3D Euler deconvolution results. For each degree of the residual field all the solutions obtained from the stripped and the unstrapped data were compared.
The discriminant analysis gives only the probability that two sets of data belong to the same collection. If this probability, ρ, is small then one can claim, with certainty, that the two sets are absolutely different. In our case it means that the stripping has a significant effect on the solutions
The table below shows the result of the discriminant analysis

ZONE	DEGRE 1	DEGRE 2	DEGRE 3
1	2.40E-28	3.50E-26	0.0087
2	0.12	2.40E-25	1.90E-11
3	0.038	0.00061	2.40E-10
4	1.10E-15	0.09	4.10E-37
5	1.10E-15	4.90E-31	1.30E-11
6	4.90E-08	7.20E-09	2.80E-35
7	1.50E-30	0.00E+00	7.00E-12
8	3.20E-04	1.30E-03	4.50E-11
9	1.90E-24	5.00E-36	6.60E-07
10	4.70E-07	1.20E-04	2.00E-37
11	6.60E-02	1.20E-11	1.90E-04